

THE AMERICAN FARMER:

DEVOTED TO
Agriculture, Horticulture, and Rural Economy.

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MARCH.

"Who was it that so lately said,
All pulses in thy heart were dead—
Old Earth, that now in festal robes
Appearest, as a bride new wed?
Oh, wrapped so late in winding sheet,
Thy winding sheet, oh! where is fled?
Lo! 'tis an emerald carpet now
Where the young Monarch, Spring, may tread.
He comes, and a defeated King.
Old Winter, to the hills is fled."

Farm Work for the Month.

With the opening of spring, as the wintry weather clears up, and March winds dry off the ground, everything must be put in motion, and nothing omitted from the necessary preparations to make a fair start, and keep pace with the movements of the season. The first great work of the year's operations is

PLOUGHING.

This embraces the proper breaking up of all sod-land, and all such as may be prepared for seeding down to grass for two or more years. It is to be borne in mind, constantly, that it is not mere cropping and its results that we are aiming at, but progressive and lasting improvement, and that of this, the very foundation is good ploughing—a thorough breaking up, of that which we cultivate, and breaking from such a depth as will continually increase the bulk of fertilized soil. Below the very deepest we have yet reached, there is a lower depth which we need not fear to invade one or two inches farther. This for the permanent improvement of the land. For the present crop, and as a point of mere

labor-saving, one good, thorough ploughing is equal to three, imperfectly and indifferently executed.

In any ordinary soil, we should not be content with less than seven inches, and the nearer we can approach twelve the better. The sub-soil plough will readily break to the depth of fifteen inches. There may be soils that form an exception to the rule of deep ploughing, and which, from some hurtful property of the sub-soil, need to be deepened gradually, but they are so rare, we think, as not to give any concern in our ordinary operations. Where there is risk of harm, the ground should be deepened in the fall.

A deep soil is the very first requisite for the successful cultivation of almost every crop. Summer crops, so very uncertain in a shallow soil, are, in a deep one, almost insured against the vicissitudes of the season. Planted in a bed of twelve inches, our all-important corn crop, would not fail of a good yield, one year in twenty.

Except on the lightest lands, three horses to a plough are necessary to break sod-land properly. As ample strength of team, as well in number as condition, is most necessary to the success of farm operations, see to it now, that any deficiency is promptly supplied.

The master should bestow the most careful supervision, to ensure that the plough, the gearing, and every other requisite be in proper order, and that his work be not slighted by the ploughman.

On a tobacco plantation, the land devoted to that crop should be the first sod broken, and broken so deeply, that the turf shall not come again to the surface, during the after working.

OATS AND BARLEY.

These crops are usually sown upon such lands as have been cultivated the previous year in corn and other hard crop, and not thought suitable for wheat. As clover seed is usually sown with them, or should be, unless under the system which makes wheat to follow oats, at least a hundred weight of some good super-phosphate should be sown on the surface in immediate contact with the clover seeds. Sow at the very earliest time that the ground may be in order, ploughing in the seed with a light furrow. Then sow immediately, clover and grass seeds and the fertilizer, and follow with a heavy roller.

CLOVER SEED ON WHEAT FIELDS.

If clover seed has not yet been sown on wheat fields, wait till the frost is out of the ground, leaving it cracked and open. Then sow and follow with roller. This implement will cover the seed sufficiently, and be very beneficial to the wheat. Six quarts of seed to the acre is not at all too much. It is a wasteful practice to put this costly seed upon land not properly prepared for it, but otherwise no price would justify its omission from an ordinary rotation of crops.

ORCHARD GRASS.

Sow seeds of this valuable grass at the same time that clover seed is sown, and put it in by the same operation; this is the best of the grasses adapted to our soil and climate, when a strong and permanent sod is wanted for grazing, as well as for a crop of hay. It makes good hay, little inferior to timothy if not allowed to get too ripe. It starts very early in spring, endures drought well, grows late in fall, makes a large aftermath, and bears close grazing, indeed, makes the better pasturage by it. It is fit for the scythe at the same time that clover is, and the two should be sown together. A bushel of seed to the acre is the usual quantity, sown with other seeds, but two bushels is not too much to ensure a thick sod. It is too expensive, however, for seeding in an ordinary rotation; but where hay and pasturage is needed for a succession of seasons, it is indispensable.

TOBACCO BEDS.

If tobacco seed be not yet sown, let there be no delay in getting the ground ready, and putting in the seed as heretofore suggested.

HANDLING TOBACCO.

The stripping should be finished as early as possible. That in the bulks will now require careful looking after. It is liable to heat and mould, and acquire a bad smell, which it will

not get rid of by any after care. Examine the bulks frequently, and whenever there is the least warmth, and, indeed, whenever it is found to be getting very soft, it should be, at once, well shaken out, and hung up for a thorough drying, or laid lightly in another bulk. The most expeditious and effective way of getting the crop into "condition," that is, fit for packing, is to hang it up and suffer it to be well dried; and then to take the first opportunity when it softens sufficiently for safe handling, but before the heads get soft, to put it into a large bulk and cover with tobacco sticks and heavy weights to exclude the air, till ready to pack.

STOCK.

Give stock of every sort especial attention in accordance with suggestions of last month.

The Vegetable Garden.

Prepared for The American Farmer, by DANIEL BAKER
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MARCH.

We hope soon to have arrived at the most favorable time of the season for seed sowing, and upon the right use of it will depend, in a great measure, the success of keeping up a plentiful supply of vegetables for summer, fall and winter use. Those who have not yet commenced to make hot beds for the sowing tomatoes, peppers, &c., should lose no time in doing so, and whenever the weather is favorable, and the ground in good condition, preparation should be made for the planting, sowing, &c., of the main crops of early spring and summer vegetables; much has been said of artificial manures, of unfavorable seasons, blight, mildew, &c. But we incline to think the grand secret lies in the proper preparation of the soil, more particularly in sub-soiling and effective drainage. Manures of whatever kind applied to land in an ill-drained condition, we think, is very frequently the cause of disease, and the crops become the prey of insects.

ASPARAGUS BEDS should be lightly forked over and dressed with salt, at the rate of about one pound to the square yard—sow seeds for new beds.

CABBAGE.—Crops of all kinds, unless previously removed, will now begin to cumber the ground, and should be removed at once, if there is any fear of the supply running short until spinach and kale come in. Plant the best of the old stalks in a border by themselves, and they

will produce a few good dishes of tender greens. Sow seed of Brussel's sprouts, Scotch kale, and savoy, for fall use. Sow, also, early york and Winingstad cabbage on a slight hot-bed or warm border. Soon as the ground is in good condition plant out cabbage from the fall sown beds.

Cauliflowers.—under glass, will be growing now that the weather is milder. Remove the lights in warm weather, and give them the benefits of warm showers, but cover up at night when there is any danger of frost. Towards the end of the month prepare to make plantations of those which have been kept under glass during the winter—transplant those raised in heat in January and February under glass. Sow as directed for cabbage; the early Paris for an early crop has succeeded best with us.

Celery.—Transplant the early sown into boxes, or on a slight hot-bed, and sow for succession; the early white and red solid we can recommend for the "Farmer."

Lettuce.—Towards the end of the month, some of the best plants that have been wintered in covered frames may be planted out upon a warm border, and others upon a more exposed situation; sow for succession. The only kind we cultivate is the true "Paris Silesian."

Onions.—Sow the main crops as early as the ground is in good condition; for very large ones we plant the small bulbs of last year, or the fall sown plants in very rich ground. The "yellow Danvers" and large red we are well satisfied with.

Potatoes.—Do not neglect to plant for the principal crop early as the ground is in good working order. We prefer that the sets should be hard, dark green; and the sprouts (should any have made their appearance) a dark purple; we cover about four inches, so that the hoeing and ploughing between will add to the depth about eight inches of soil.

Rhubarb may now be forwarded by placing hand-glasses, or boxes over it, with a little manure round the bottom to prevent the ingress of cold winds. This plant is greatly benefited by copious waterings of liquid manure during dry weather; it delights in plenty of moisture and good living; now is the time to make new plantations; choose deep, rich soil, trench deep, manure heavily, and plant good roots of good varieties, such as Myatt's Linnæus, or Salt's crimson perfection. We have on trial upon the college grounds, some twenty varieties, which we hope to report upon in due time.

Radish.—Sow upon a warm border the early short top, and red turnip varieties.

Pears.—For the first crop, sow the Daniel O'Rourke, or Carter's "first crop." If there is any fear of the seed being attacked by the wire worm, it is an excellent plan after they are sown, and previous to covering them up, to water them well with a solution of spirits of tar, in the proportion of one pint to six gallons of water.

Parsnips.—Sow for the main crop on good, deep, rich soil, early as the ground is in good working order; we believe the old hollow-crowned, or Guernsey, to be the best yet.

Parsley.—A sowing of the double curled should now be made; clean and cultivate the ground well between the rows planted last summer.

Spinach.—Sow on rich soil for succession the round-leaved; cultivate frequently between the rows to prevent the growth of weeds, and the plants running to seed.

The Fruit Garden.

See that all fall planted fruit trees are securely staked and well-protected against high winds; take advantage of a dry day to draw away the soil from the stems of goose-berry and currant bushes to the depth of three inches, and about three feet in diameter; sprinkle over the space cleared, soot, quick-lime, and wood-ashes, returning the soil; this has a material effect upon the vitality of the gooseberry-caterpillar, and we find prevention better than cure, and it also acts as a stimulating manure.

Any old trees intended to be headed down for grafting should be done at once, and all young stalks should be grafted as early as circumstances will admit. All operations in this department should be finished as soon as the state of the ground permits; should the weather prove dry towards the end of the month, see that recently planted fruit trees are not suffering for want of moisture, as is sometimes the case in early spring; a circumstance which will rarely happen except in dry porous soils; and in such cases the ground should be mulched with decayed manure, to preserve it in a uniformly moist state; give the strawberry beds a top dressing of rotten dung if not done in the fall; and as soon as dry weather sets in, give the beds a good watering of liquid manure. Fruit trees, as far as we have been able to examine them, appear to be well supplied with fruit buds, so that with favorable weather, we may expect a bountiful supply of fruit.

Strawberries, under glass, will now require frequent and liberal supplies of water at the

roots, and sprinkling over the foliage; they will also be greatly benefited by occasional applications of manure water at the root, particularly while swelling their fruits; strawberry beds should be uncovered soon as danger of frost is past, and a sowing of guano applied, which we have found to have great influence upon the crop of fruit.

Plant a good supply of strawberries, raspberries, blackberries and currants, and by no means neglect the grape vine, which succeeds almost everywhere; in planting the raspberry, cut the canes down nearly to the ground, by which means you will obtain good strong canes for next year; old grape vines may be renewed by laying some good, well-ripened shoots two or three feet from the stem of the parent plant.

Pruning of all kinds should be completed early as practicable. Set out in a partially shaded border of well prepared ground, cuttings of grapes, currants and gooseberries, of about three eyes each; set about four inches apart in the row, and one foot from row to row; press the earth well to them and keep free from weeds. See that fruit in cellars do not spoil by rotting.

The Flower Garden.

Mowing and dressing lawns will soon require attention. Lawns having a hungry, sandy soil, and liable in the summer to burn, should have a dressing of manure every fall. We have found a dressing of well pulverized clay obviate in a great measure the tendency to burn. Where the soil has become compact in flower beds, dig it up for the beneficial admission of air; finish the planting and alterations in ground work as early as possible; also, the pruning of shrubs.

During the present and next month is the best time to plant roses from pots; young plants of China, Tea, Bourbon, and hybrid perpetuals, will bloom finely in the fall if planted now in good rich soil.

Box edging planted now will do much better than when planted in the fall. If the weather prove dry after planting, keep newly planted beds well watered, as if a few plants die, the edging will appear very unsightly during the summer.

Divide and plant herbaceous plants, as many of the Astors, Phloxes, Veronicas, and many other strong growing kinds throw up too many flower shoots, it is best to thin them out when about three inches high not only to obtain fine heads of blooms, but also to increase the strength of the remaining shoots. Plant out wallflowers,

Sweet Williams, Canterbury bells, &c., not forgetting *Delphinium formosum*, one of the most showy of herbaceous plants. The early blooming kinds will soon be coming into flower, and, if choice kinds, may be propagated from cuttings as soon as the bloom is over.

Sow the seeds of early annuals in patches; a slight covering will be sufficient. Mark the places with small sticks, which will be a guide to prevent any other things being planted too near them.

Pansies in beds should be spread out, and their long stems covered with rich earth to within two inches of the ends, these will root and flower finely. Sow seed in boxes filled with light rich earth. Plant out those in pots.

BEDDING PLANTS, such as verbenas, geraneums, salvias, cupheas, fuchsias, heliotrope, &c., cuttings of all may be put in pots, or boxes filled with light sandy soil, and placed under glass upon a slight hot bed. Tender annuals for early blooming, such as ten-week stalks, mignonette, balsams, cockscomb, amaranthus, German and French asters, phlox, &c., should be sown on a slight hot-bed, and brought forward in pots, &c. To pass in review all the annuals worthy a place in the Flower Garden, would take up more space than could be spared for the purpose. I will therefore only name those which we consider most worthy of a place in the garden of the "Farmer."

SELECT LIST OF HARDY ANNUALS.

Ageratum Mexicanum, *Alyssum sweet*, *Amaranthus Hypochondriacus*, *Amaranthus Melancholicus* Rubra, *Amblyolepis Letgera*, *Artemisia Annua*, *Bartonia Aurea*, *Calliopsis Coronata*, *Callishoe Pedata*, *Canary Bird Flower*, *Candy-tuft*, sweet scented; *Candy-tuft*, new Rocket; *Canna* in variety, *Chrysanthemum Burridgeanum*, *Clarkia Elegan*, *Clarkia Pulchella Grandiflora*, *Dianthus Heddeiwiji*, *Eternal*, or *Everlasting Flowers*, *Godetia Lindreiana*, *Helichrysum* in variety, *Larkspur*, *Dwarf Rocket*, *Limnanthus Douglassii*, *Marvel of Peru*, *Minonette*, *Nasturtium Tom Thumb*, in variety; *Nemophila* in variety, *Anothera Drummondii*, *Phlox Drummondii*, in variety; *Portulaca*, in variety; *Tagetes Signata* *Pumila*, *Zinnia*, the fine double varieties.

FOOD FOR HOGS.—A writer for the Western Rural argues in favor of concentrated food for hogs. He says he never knew a slop-fed hog to grow and keep healthy and make as rapid growth, as one allowed the range of good pasture, and given dry feed, such as corn, or oats and corn, or barley meal.

For the "American Farmer."

Inflammation of the Spleen—Carbuncle of the Spleen—Spleen Disease of Cattle.

This disease has often been taken for Pleuro-pneumonia, and I therefore take the liberty to furnish some explanations in regard to it.

It attacks all kinds of domestic animals, and amongst them even poultry; is highly dangerous, and destroys the majority of them in so short a time, that often death ensues before anything can be undertaken to prevent it. Inflammation of the spleen mostly appears with cattle, swine, and sheep, but not so frequently with horses. The disease is more prevalent in warm regions than in cold, and appears more generally in summer than in winter. It was known in the most remote times, and in nearly every country. Thus we find in the Iliad a narrative of the devastations caused by this disease among the cattle herd of the Greeks.

The progress of the disease is extremely rapid and destructive, requiring the speediest help of an energetic and careful surgeon perfectly acquainted with the nature of the symptoms. After these general remarks, I beg leave to offer the following special information in regard to

I. Spleen Disease in Cattle.—Spleen fever, which often makes very rapid progress, the animal, which hitherto appeared perfectly healthy and sound, is suddenly taken sick during its work or at the trough, and even while eating; it drops down as if stricken by lightning, and death from convulsions ensues in a few minutes. Sometimes the attack is of a longer duration, twelve to sixteen hours. In such cases the animals appear to be weak and sullen; ceases to eat; staggers and reels; is either stupefied or excited and wild, and runs from place to place, roaring and bellowing in great agitation. From mouth and nose there flows a slimy froth, often mixed with blood; the eyes are red and covered with tears, standing wide open and emerging from the sockets; upon different parts of the body convulsions are perceptible, and the animal at last expires under these convulsions. Shortly after decease a black, tar colored blood is often seen to emerge from the mouth, nose and rectum; the genitals curl up and show a dark, red or bluish color, and the carcass is rapidly destroyed by putrefaction.

But it is not always that inflammation of the spleen is attended with such rapid progress as this; in some cases death does not ensue until a lapse of from eighteen to thirty-six hours.

In such cases the disorder begins with trepidation and convulsive fits, perceptible on different

parts of the skin. The diseased animal retires from the crib or trough, or slowly and hesitatingly follows the herd in open air; it keeps the head down, is sullen and lazy, pays no attention to others, and moves its feet in an irregular manner; appetite and rumination generally disappear entirely.

Milch cows cease to give milk, the animal shows very little or no desire to drink; it is fearful, and looks wildly around; the surface of the body, the ears, horns and mouth repeatedly change from warm to cold; the eyes, at the beginning red and fiery, become dull; and often blood flows from the nose and rectum, the mouth is filled with foam and froth, the respiration difficult, forcible and wheezy, accompanied with gnashing of the teeth; the pulse rises from seventy to one hundred in a minute, and a strong and vehement palpitation of the heart is perceptible. During the last stages the surface of the body becomes cool and the animal dies under convulsions. During my practice, I have witnessed a case where the disease, after a duration of five days, resulted in death; but this is only to be considered as an exception, and to be ascribed to a very powerful bodily constitution.

II. Carbuncle of the Spleen.—In many, if not in most cases, there appears in the beginning, or during the progress of the inflammation of the spleen, swellings or protuberances, called carbuncles, on different parts of the body, especially upon the head, neck and shoulders, the flanks or buttock, and even the shanks become covered with carbuncles.

These carbuncles mature very rapidly, feeling hot in the beginning, extending perceptibly in height and width, and becoming, in most cases, cold and hard. Upon incision, a yellow, gelatinous matter shows itself under the skin.

The carbuncle has been considered a beneficial and natural formation, but it increases the danger when it appears upon the head and neck, rendering respiration more difficult or even impossible. Another danger arises from the fact that they change into inflamed ulcers of the most malignant character. If these ulcers recede, it is in most cases an indication of death, because other parts, especially the lungs, then become infected. In many cases inflammation of the spleen, an accumulation of thickened, tar colored blood takes place in the rectum, which is commonly called loin or marrow blood. These symptoms have been erroneously regarded as a special disease, whereas they are only incidental to the inflammation. This inflammation of the spleen being generally a most dangerous disease, which destroys most of the infected animals, it

is important not to confound it with other disease.

When it happens that one or more cattle suddenly die, especially in summer, without any previous visible indications of disease, the prevalence of inflammation of the spleen is always strongly to be suspected, although it may be mistaken for another disease called "blowing up," which is always the consequence of over feeding, especially on clover.

As soon as the spleen disease makes its appearance among a herd, the healthy animals should be repagated from the sick, and the cattle confined to spacious, cool, shady and well ventilated sheds. Sultry heat, as well as fetid or corrupted stable air, must be carefully avoided.

The best and most reliable remedy, as I have found by numerous trials in my practice, consists in pouring cold water upon the animal until it shows a violent trembling. This can be done by pouring the water, in a bucket, from a moderate height, upon the back of the animal, and every two hours one-half ounce of sulphuric acid, in a half pint of water, must be given to the animal to swallow. A still better inward remedy consists of chloride of lime, of which I give one-half ounce mixed with flour and water every half hour, until improvement is observed. The carbuncles have to be opened and cleansed with water or a solution of vitrol of zinc, by means of a syringe, after which butter of antimony is to be applied, with a small brush. This operation requires the greatest care on the part of an experienced person, and it is therefore better to entrust it to a skilful veterinary surgeon. In case of constipation, two ounces of saltpetre and three quarters of a pound of glauher salts should be given inwardly, and salt, soap and warm water applied outwardly. Upon the breast lappels, a fontanel of thirty grains of hellebore must be applied. If improvement appear to be felt after twenty-four or thirty hours, the following powder is to be given twice a day with bran fodder—two ounces gentian, one ounce saltpetre, one-half ounce powdered calamus, eight drachms of gold sulph. antimon.

It is very dangerous to eat the flesh of an infected animal, and although this effect has not been felt in some cases, there are numerous instances where the eating of such meat, or even the juice or gravy, has been followed with death or the most alarming symptoms. The milk of the affected animal is likewise dangerous, although not to such an extreme degree.

Persons who are entrusted with the treatment or care of diseased animals, should be very

cautious not to touch or handle any of the blood or raw flesh, without first covering the hand.

When a blister or fontanel is to be applied, or medicines to be put in the mouth of the animal, the hands of the person ought to be veiled or covered with gloves, and immediately afterwards every soiled spot of the skin carefully cleaned with soap, water or a solution of chloride of lime. Contagion follows very rapidly, and instances are recorded where the blood of an infected animal, even when received into the human system from the sting of a fly, has proved most deadly in its effects.

The disease caused in the human body, if not the result of eating the flesh of animals affected with inflammation of the spleen, is called "black pox," which appears upon the affected spot, producing an itching or burning, and in a short time a small bunch arises, containing a liquid fluid; this spot becomes of a red, brown, and at last of a dark purple color, and changes into a hardened knob.

Several days afterward a general and painful swelling, accompanied by disease of the whole body, takes place. The affected person complains of headache and nausea, fever and ague appears, with extreme and burning thirst, and dry, itching tongue; the mind of the patient becomes disturbed, and after repeated attacks of fainting, he dies in the greatest agony.

I have witnessed two cases of this horrible disease, one in the dominions of Count Dolgrow, in Russia, during 1846; and the other upon the farms of Count Pontales, in Prussia, near Berlin, during 1849. Both these cases resulted in death, although the most renowned physicians were consulted.

DR. HENRY CLOK,

Late Chief Veterinary Surgeon U. S. A.,
312 Crown street, Phila.

GREASE THE WHEELS.—Oil and black lead is supposed to be the best substance, but we have always found lard and flour apparently as good. If the wheels are kept well lubricated, very little difference will be found between the ease of running wooden and iron axles in ordinary farm-work. The smaller the axle, the less will always be the friction, other beings being equal; but because the spokes have a greater purchase, the friction being the resisting force, and being nearer the end of the lever when the axle is small.

AMOUNT PRODUCED.—The aggregate production of wool in the whole globe is estimated as 1,616,000,000 pounds, or a pound and a quarter to each inhabitant, reckoned at 1,200,000,000 people.

For the "American Farmer."

Trees.

It may appear absurd to the owners of large tracts of woodland, that the trees of small gardens should be admired and thought worthy of as much care as we often find bestowed upon them; and, perhaps, there may be those who consider the less giants altogether out of place in such situations, and feel no regret at having them laid low, to make way for some cramped up flower bed, or may be for a potato or cabbage patch. We have been grieved in passing through the country, to see the want of taste and feeling shown on this very important subject by almost all classes concerned in the building of residences. To judge by the unsparing use of the "woodman's axe," by those who are selecting sites for building houses, be they mansions or cottages, one would think that the noble trees of our woods and forests were a nuisance, to be put out of sight as quickly as possible; and that no piece of ground, whether of one hundred acres or only one, could be ready for building upon, or laying out as a garden, lawn, &c., until every tree had been rooted out and the ground made bare as a blasted pasture.

Then the pathways, where we have walked under the shady maple and the spreading elm; alas, for their shadowy branches now! Poor comfort for those who admire those noble monarchs of the forest, to be told that the pathway will be much drier, and the roads may be kept in much better condition; that now the sun and wind will dry up all mud, and that there will be no accumulation of leaves and litter. It is sad to recall the rural beauty of some of those wild woodland scenes, where we have wandered with loved ones "now gone," in search of the wildlings of the wood. We remember one old by-road, with its avenues of wide, spreading American Elms, (*Ulmis Americana*), which we think one of the most graceful and beautiful of all our native forest trees, on each side, and bounded on the south by a beautiful natural grove of the lovely Hemlock (*Abies Canidensis*). Beyond were the sweet, green meadows, gay with wild flowers, while every here and there upon its undulating surface were natural clumps of the same beautiful evergreen; and the scarlet maple, (*Acer Rubrum*), where one might sit and rest, notwithstanding it was within one mile of the limits of a flourishing and populous city. But the beautiful spot, not unlike many others of a similar kind, was doomed—first came the ring of the woodman's axe, in laying low that beautiful grove of hemlocks; still the branches waved

overhead in the beautiful meadow beyond, and the green resting places remained; but, ere long, again the woodman's axe was doing its work, and all the trees, young and old, were laid low; field and meadow "broken up," and the park-like (and what a beautiful site it was for a public park!) grounds surrounded by a Virginia "snake fence." The surface of that beautiful spot is now covered over with blackened stumps, and the prospect over the whole is one of desolation; and the old by-road is turned into as dull and uninteresting a highway as ever contractor rejoiced in. There may be situations where fine trees are in the wrong places, and must be removed. If too close to a dwelling, or where they shut out distant and desirable views, or where crowding upon other more valuable trees, but, in general, the enjoyment, as well as the beauty of a small place, is very greatly enhanced by the surroundings of fine and noble trees. Few in number, we believe them to be, and often in the way, it may be thought of flower beds, walks, &c.; but for such things, who, with any taste for the beautiful, has either eye or heart to sacrifice a noble elm, oak, or maple, or a horse chesnut, with its magnificent snowy spikes of flowers, a beech, with its foliage alike beautiful in the greenness of early spring, or in the rich, deep, red and yellow, glory of the fall; a wild cherry, with its racemes of beautiful flowers, and its carmine brightness in decay, or the "queen of the wood," the graceful, silvery birch, trembling to every passing breeze, and its leaves of golden hue covering the ground, when the winter winds have stript the branches, leaving them almost as beautiful in their winter barrenness as when clothed in their fragrant summer foliage.

"Woodman spare that tree."

In the sultry days of summer, who does not value a tree for its grateful shade, as well as for its beauty? But it is in the fall when the latter quality is in its glory. In the gloriousness and diversity of coloring, we have never witnessed (in our wanderings) anything to equal the autumnal foliage of the American forests. To the real lover of trees, the interest is not departed even when the winter winds have swept the beauty out of the landscape, in the eyes of the ordinary observer; for not only is the form but the tree characteristic of each tree then seen. Then it is we witness the sheltering spread of the beech, the light playfulness of the birch with the strength and grace of the ash, &c., &c.; each and all have a claim on our admiration. We then find enough in the color of the bark, varied as it is from purple hues to silvery gray, and

marbled from root to branch with many interesting kinds of moss and lichens, which, even to an unartistic eye, can but appear beautiful. Nor does the snow storm deprive the landscape of its beauties, as is clearly evinced from the window of the room in which we write, the prospect from which is varied, rich, and beautiful. The trees are now bending beneath or bearing up their feathery burdens; a contrast which renders them more clearly defined—the evergreens more especially. The pine and cedars, with their heavy loads of snow, (January 12,) standing out so noble here and there among the bare stems and branches, and now, frequently, when a sudden frost comes on during the night, and the gates of the morning are again being opened, when, lo! all the trees are sparkling as with diamonds, the dripping moisture changed to brilliant jewels, beautiful emblems of the depressing trials of the true Christian—meekly and nobly borne, not unfrequently changed to blessings, and the garment of praise given for the spirit of heaviness. Well may Ruskin say that no one can be far wrong in the way of life, or right temper of mind, if he loves the trees enough; if human life be cast among trees at all, the love borne to them is a sure test of its purity. Each individual that loves trees at all, has, most probably, some one special favorite, the preference not unfrequently determined by early associations, but whether it is the noble oak, or the graceful birch, it matters not, the longer we know and study our favorite, the more do we value it, and the playfellow of childhood becomes the friend of riper years. It has been suggested, that some of the trees in the immediate front of our college should be cut down, and perhaps it may be done to advantage; but few things are more perplexing to the lover of trees than the decision as to which shall fall, either in a wood or upon the lawn, or where a view may be opened or light and air admitted to the dwelling. No one who merely looks upon trees to be cut down, can understand the hesitation and alternate change of plan between summer thought and winter thought of our cherished trees; and is it not wise to ponder and look at the question on all sides, and remember that cutting down a tree is an irretrievable step? But when a tree is doomed to fall, it is best to make its removal a source of pleasure instead of indulging in vain regrets, as it must be admitted that by the timely and judicious removal of some, *even noble trees*, additional enjoyment is gained. But we would spare and cherish every tree whenever and wherever practicable, whether it be upon the farm, garden or lawn, &c. Many of our beautiful trees are fast dis-

appearing in the same way as they have done in other countries. France, says M. Thuan, will disappear, as many flourishing countries have, if she does not follow the example of Cyrus, who planted forests in Asia Minor. It is only the abundance of forests and water that enables China to support her 300,000,000 of inhabitants, because in this empire there are more trees planted than destroyed. Spain, so densely populated, and so highly cultivated, at the time of the Romans, the Moors, and Charles V, owes her desolate aspect at present to this waste of wood. So it will be in this country, unless we plant trees to supply the place of those we cut down.

DANIEL BARKER, *Md. Ag. College.*

For the "American Farmer."

Estimating Corn in Crib.

I frequently see in agricultural and other papers rules for estimating the quantity of shelled corn in cribs on the ear, without making any difference in the division for large or small cob corn. The presumption is that the seller means only to give five bushels shelled corn to the barrel in ears. The buyer of course cannot demand more than measure. I have bought and sold corn by the following measurement, which has given satisfaction. If the studding or framing is inside the crib or house, and the cob of the corn is of fair size, divide by eleven. If no framing but flush sides and ends, and the corn be deep grained with small cob, divide by ten. After leveling the corn, multiply the length, breadth and depth together, and divide by eleven or ten, as before stated.

EXAMPLES.

12 feet long.
11 feet broad.

132
6 feet deep.

11) 792 cubic feet.

72 barrels shelled corn.
5 bushels in a barrel.

360 bushels shelled corn.

12 feet long.
11 feet broad.

132
6 feet deep.

10) 792

79 $\frac{1}{2}$ barrels and one bushel shelled corn.

Yours, very respectfully,

D. H. LONG.

Princess Anne Co., Va., Jan. 17th, 1867.

For the "American Farmer."

Drainage of Flat Lands.

CHAPTICO, ST. MARY'S CO., MD.
January 16, 1867.

GENTLEMEN: "I am *satis nivia*," says Horace, and so say I—"cribbed, cabined, and confined," as at present I am, by the silent falling of the silver flakes, until it seems that shortly, "Pelion upon Ossa," must be the result; and, were it not that I fished out, from under the garret and rubbish of the former proprietor of these acres, a whole lot of "old Farmers," running away back into the classic times of Edmund Ruffin, Horace Capron, Ed. Stabler," "*it id omne genus*"—I say, were it not for this fortunate "raid," I should probably, on such a day as this, find myself "whistling for the want of thought;" for my select library, a cherished institution, which sprang into being with my boyhood, and grew with my growth, away down in the Palmetto State, was most barbarously "Shermanized," and, for the first time in my life, I find myself both without books and without money to buy. Think of my choice Roman engravings, and volumes, printed and purchased in the very land of the Dantes, Petrarchs and Tassos—Michael Angelos, Raphaels and Titians—all sacrificed to make "a Yankee Holiday." We may forgive—'tis more than mortal to forget. Please excuse this digression, but it is difficult to avoid "harping on my daughter," and I must now face the music, and tell you why I have had the presumption to address you at all.

Coming from the rice regions, where ditching is the "rule," and having located myself here, if not again in the swamp, still upon very wide flat land, lying immediately upon the banks of the Wycomico, I suddenly found myself, after the first heavy fall of rain, surrounded by water—yea, "water, water everywhere, and, (many) a drop to drink"—and, in the total absence of drains, there it stood, freezing and thawing, and thawing and freezing, alternately, to my most perfect disgust, and a fatal premonitor that no crop could live under such circumstances.

Thinking of the perfect drainage of my old rice fields, made me determine to introduce the "system" here, and lay off the fields after "that fashion." Accordingly, as soon as I could put a plow into the ground, I struck off my flat fields into beds, thirty feet wide, and with Minor & Horton's No. 22 plows, and very large horses, threw the furrows to the centre; which immediately raised the crowns about twelve inches, and depressed the sides down to the bottom of the water furrows proportionately. A second plow-

ing, in last autumn, for wheat, on the same principle, has now raised these beds about eighteen inches on the crowns over the fall of the water furrows; and the late heavy rains of October so thoroughly put my system to the test, that I could exclaim with impunity, "*Fiat justitia ruat coelum*."

But, imagine my satisfaction when, upon rumaging over those old mutilated "Farmers," I came upon an article from the pen of the immortal Ruffin, entitled: "Various Essays on Practical Farming." Among these, I found one devoted precisely to my system of *wide beds*. But, unfortunately, both of the numbers are so mutilated, that more than 'half of the article is lost. I think, gentlemen, if you can lay your hands on those numbers, "July and August 1851," and, also, the "Farmer's Register, volume vi., page 185," and insert them in the Farmer, you will be doing not only me, but many more of your valuable readers, an important service. Perhaps, if desirable to you, I may send you a diagram illustrating how the drainage is effectually performed.

What do you think of barley—would there be much certainty of making a crop in this region, the soil being a sandy loam? It was broken up last spring eight inches deep for oats—will be broken again the same depth for barley, and receive about 150 pounds Peruvian guano per acre. May it be threshed in the ordinary wheat thresher? Is Baltimore a certain market for it, or must it be shipped elsewhere? Let us have an article on "Barley." In these days of expensive labour, on the "New England idea" plan, I am casting about for something to grow on the old pasture fields, instead of keeping up that old style "rotation;" and I would like to know how it would answer to bring on "Flax" as a rotation: say after corn or oats. If not demanding too much, I would like to see an article on "Flax Culture." My own idea is this: If, as I am informed, there are mills which will buy the straw, after it is threshed, *without rotting*, to raise it, and ship it to market in *that condition*, will the wheat thresher again answer for threshing out the seed, and a hay press for the straw?

With many apologies for intruding so many things upon your attention, I remain,

Your most obedient servant,

"PALMETTO."

The editor of the Mobile (Ala.) Register thinks the principal advantage possessed by the Northern farmers over those in the South is in the better implements used by the former.

Artificial Manures.

BY W. WALLACE FYFE.

[A Lecture delivered to the students of the Royal Agricultural College, Cirencester.]

From the contrast of value presented in our last lecture between animal and mineral manures, excellent as some of the latter can be rendered by comminution and chemical solution, you must have felt the infinite superiority of the former as a resource of fertilization. The truth is, that the value of animal manures consists less in the amount or quality of their inorganic constituents, than in their ammoniacal contributions to the nitrogenised principles of plants. The gluten in wheat, being its principal nitrogenised constituent, may unquestionably be increased or diminished in quantity according to the quality of the manure. Thus Hermbstaedt gives a table showing that

WHEAT YIELDED—

	Gluten.	Starch.	Produce.
Without manure.....	9.2	66.7	threefold.
With vegetable matter.....	9.6	65.9	fivefold.
“ cow dung.....	12.0	62.3	sevenfold.
“ pigeon dung.....	12.2	63.2	ninefold.
“ horse dung.....	13.7	61.6	tenfold.
“ goat dung.....	32.9	42.4	twelvefold.
“ sheep dung.....	32.9	42.8	twelvefold.
“ dried night-soil.....	33.1	41.4	fourteenfold.
“ dried ox blood.....	34.2	41.3	fourteenfold.
“ human urine.....	35.1	39.3	twelvefold.

Theoretically, vegetable manuring, or the antique practice of “green manuring,” extensively practiced by the ancient Romans, who grew many crops for no other purpose, ought to prove more beneficial than it is ever found in practice. It is, however, frequently resorted to by the skilful farmer when he perceives it necessary to augment the organic constituents of the soil. Mr. Campbell, of Craigie, found no better way of manuring for wheat, after turnips, than by ploughing in the tops while yet green, and indeed as soon as the turnips could be moved from the land. Sea-weed is the only thing, in the shape of a plant, excepting, possibly, rape-cake, that is attended with great success in manuring, and being of marine vegetation, it furnishes most valuable ingredients to the land, such as carbonates, phosphates, sulphate of lime, and common salt. Mr. Wilson has well illustrated the result of applying various substances experimentally on pasture land near Largo, in Fifeshire. Sown and reaped together.

A CROP OF HAY TURNED OUT—

	Per Acre.
Unmanured.....	3360 lbs.
2½ barrels fresh quicklime.....	4816 “
20 cwt. lime from gasworks.....	5208 “
4½ cwt. wood charcoal.....	5320 “
2 bushels bone dust.....	5544 “
18 lbs. nitrate of potash.....	5936 “
20 lbs. nitrate of soda.....	6272 “
2½ bales of soot.....	6552 “
28 lbs. sulphate of ammonia.....	6776 “
“ gallons of liquor from gasworks.....	7560 “

This is as fair a trial as could possibly be of the contrast betwixt the stimulating powers of specifics, as applied to one particular crop; and I select the example because it perfectly accords with the theoretic value of the manures applied, and does not exhibit that sort of miscarriage in experiment, from whatever cause arising, in which we see the unmanured plot equaling or exceeding, in some instances, those supplied with known fertilizers. When such is the result, we may rest assured that there has been some mismanagement somewhere. Although we do not, in our practice, manure the plant, but the soil, Mr. Lawes and others have so far indicated the approaches of science towards rendering crops of different kinds its patients as to have laid down the following rules for treating plants with manures, according to the specific objects of their cultivation. Liebig has distributed plants into three classes—silica, lime, and potash plants—according to the predominance of these items in their ash, including, under the first, the ordinary cereals, wheat, barley, oats and rye; under the second, the leguminous, as peas and clover; and under the third, tubers, as turnips, potatoes, beet root, and the Jerusalem artichoke. Liebig commences his rotation under the potash plant, say with turnips, because, immediately after manuring with farm-yard dung, such plants would absorb the soluble active alkaline matters, and prevent their being dissipated by rains, and because these matters, being less required by other crops, would have to remain in the soil, unless first used up. Potash plants, moreover, should commence the rotations, because they would admit of portions of silicic acid, which other plants require, being separated and rendered soluble in time for the silica plants—wheat, for instance—which would come next in the rotation. Very well, as neither the potash plant, in the first place, nor the silica plant, in the next, will be found to demand much lime, the lime plant—clover, for example—will come in admirably as the third rotation; and the land, during the growth of this plant, will, in a great measure, obtain rest after the exhausting action of the wheat or silica crop. Besides, although the silica plant may have required phosphates in addition to the silicic acid, it will be found that the lime plant, coming in succession to it, will benefit likewise by the phosphates, and yet leave enough, and no more, in the ground to mature the seeds of a fourth crop—oats or ryè. Thus, therefore, we have the four-shift rotation, founded on the purest principles of science. Regarding the application of artificials in the promotion of specific crops, the following may be recommended;

1. That for plants cultivated for their primary organs, leaf and stem—meadow grass, clover, cinque-foil, tares, cabbages, and other fodder plants—the manure should be substances yielding ammonia rapidly, such as Peruvian guano, sulphate and muriate of ammonia, nitrate of soda, dung from stall fed cattle, salts of lime, with phosphate of ammonia, soot, &c.

2. For plants cultivated for their intermediate organs, that is bulb or tuber, as turnips, man-gold-wurzel, &c., the proper manures are phosphatic guanos, of which the best is Phospho guano, as it contains sufficient ammonia to give the plant a good start, super-phosphate of lime, and well rotted dung.

3. For plants cultivated for their ultimate organs, i. e., their seeds, as wheat, barley, oats, peas, beans, tares, clover seed, &c., the phosphatic manures are the best, or any organic matter slowly yielding ammonia, as, for instance, residuum from highly manured green crops, rape-cake, dung from stall fed cattle.

Johnston, who tested some of these last applications, found the returns

FROM ONE BUSHEL OF—

	Wheat.	Barley.	Oats.	Rye.
Blood.....	14	16	12½	14
Nightsoil.....	12	13	14½	13½
Sheep dung.....	12	16	14	13
Horse dung.....	10	13	14	11
Pigeon dung.....	7	10	12	9
Cow dung.....	7	11	16	9
Vegetable manure.....	3	7	13	6
Without manure.....		4	5	4

A variety of circumstances, some of them the failures and some the improvements in agriculture—clover sickness on the one hand, and deepening cultivation on the other—are, however, driving out our rotations from four to six-shift intervals. We shall therefore consider what might be the ordinary application of manures in a six shift rotation. Suppose that a crop of oats were the first in the rotation. This would require very little manuring, if coming after previously manured green crop, lea, or, as frequently happens with this crop, after the breaking up of old pastures, which have been known to yield, invariably, the largest oat crops. Mangold and potatoes might follow next—the last would require to be manured with vegetable and animal manure from the previously prepared dung heap, at the rate of from twenty to thirty tons per acre, according to the quality and condition of the soil; the former with a mixture of animal and vegetable matter, which should be applied at the same rate per acre, in a well decomposed condition. The culture of wheat, after these fallow crops, is a simple process, and for manure, it would be chiefly dependent on the residue from these, with additions of substances slowly

yielding ammonia. For turnips, carrots, &c., the land is to be limed at the rate of thirty bags of shells per acre, after removal of the wheat crops. Lime, although, as we shall see presently, an important agent in promoting the fertility of the soil, by calling into action its nutritive principles, and greatly improving the quality of produce, must be employed, however, in moderation, because over-doses too often inevitably occasion scourging crops, and ultimately barrenness. In the six-shift rotation, the quantity mentioned can be applied only once, and in this manner: The lime shells are carted to the farm during the summer, and there mixed with an equal bulk of earthy matter, couch-grass, and other weeds, for decomposition—road scrapings, ditch scourgings, the earth and root fibres of old headlands and old hedgerows that may have been levelled—everything adds to the variety, and for this purpose there is good in everything. This mixture is of far easier application to the land than mere earth mixture, and the lime more easily managed in windy weather. This application of lime is not, however, manuring for turnips—it is a mere amelioration of the land for the ensuing rotation. The turnips are to be manured from previously prepared and well decomposed dung heap, at the rate of twenty-five tons per acre for Swedish, and twenty tons for other descriptions, laid in heaps in the hollow of every fifth drill, at nine feet intervals, then spread out equally in the hollows of all the five drills, with light three-pronged forks, so as to be immediately covered in by the double mould board plough, splitting the drills down the centre. By harrowing across the former drills of root crops a rich soil for barley is diffused over the undunged intervals, and assists materially its production as fifth in the rotation, since its success, like that of the grasses generally, depends more on pulverization than on fresh manuring. Grass for soiling and hay, having been sawn down with the barley, may be depastured whilst young with one of the most enriching things known, the sheep, whose “golden feet” will do it no injury, whilst those of cattle would poach and destroy the young plants. Nor must sheep be suffered to crop the herbage to bare, since, if stinted of food, they would eat the crown spikes of the young plants, and destroy their vitality. This is the common and natural mode of applying manures, but few are the farmers who can now-a-days afford to stop here. They must apply in addition and in aid of these old-world manures, the artificials of the day, or lag behind in the race of production. In addition to the imported substances treated of in our last lecture

we have the nitrate of soda, a white saline substance, found in Peru, applicable as a top-dressing to grass lands and young corn. It is frequently adulterated with common salt, which, however, will crackle, whilst nitrate of soda, as well as nitrate of potash, (saltpetre,) will simply flare up, if a pinch be thrown into a hot fire, so that the adulteration can readily be detected. Nitrate of soda ought to be composed of nitric acid and soda in the proportions of fifty-four to thirty-one. It is therefore valuable in affording a supply of nitrogen and soda to growing crops, when applied in spring as a top-dressing, at the rate of one to one and a half cwt. per acre.

Sulphate of ammonia is now better understood and more highly esteemed by the farmer, as a top-dressing for cereal and grass crops, and as a mixture with phosphatic manures for root crops. Many, indeed, prefer it to nitrate of soda as a top-dressing, being considered less injurious to the young plant whilst in a tender state.

But, next to farm yard manure and guano, bones are the grand resource of the enterprising British farmer, as their yearly increasing consumption, whether in a raw or manufactured state, completely proves. At present, the largest portion of our supplies are drawn from South America, the Mediterranean, and the Baltic ports, and, although the Baltic bones are most in demand, because they bulk largely when ground, owing to the barbarous habit of selling bones by measure, and their consequently producing more bushels to the ton, the bones from other quarters are found fully as rich in manurial value. In purchasing by weight instead of by measure, farmers could thus secure a manure, as good in all respects, at from 5s. to 10s. less per ton.

Bones may be rendered more immediately active by boiling, to remove the fat; and we have in the College Museum a specimen of steamed bones, but nothing is equal to their conversion into super-phosphate.

With reference to this subject, I cannot help citing the passage from Baron Liebig, to which I referred in a former lecture. It is incredibly fierce:

"England," he exclaims, "is robbing all other countries of the conditions of their fertility. Already, in her eagerness for bones, she has turned up the battle fields of Liepzig, of Waterloo, and of the Crimea; already from the catacombs of Sicily she has carried away the skeletons of many successive generations. Annually she removes from the shores of other countries to her own the manurial equivalent of three millions and a half of men, whom she takes from us the means of supporting, and squanders down her

sewers to the sea. Like a vampire she hangs on the neck of Europe, nay, of the entire world, and sucks the heart blood from nations, without a thought of justice towards them, without a shadow of lasting advantage to herself.

"It is impossible," he proceeds to say "that such iniquitous interference with the Divine order of the world should escape its rightful punishment; and this may, perhaps, overtake England even sooner than the countries she robs. Most assuredly a time awaits her, when all her riches of gold, iron, and coal will be inadequate to buy back a thousandth part of the conditions of life which for centuries she has wantonly squandered away."

No more extensive manuring practice, apart from the ordinary routine of fertilization, is known in agriculture than the application of lime; and no wonder, its effects are marked, and indeed marvellous. So great a stimulant is lime, that an overdose of it, as it is called, is a well known method of raising scourging crops, and producing exhaustion and sterility in the soil. I mentioned that Liebig designates one class of plants as "lime plants." They are represented by lucerne, clover, beans, peas, and even potatoes; but lime is found only in the leaves of the potato; very small traces occurring in the tubers, which belong, under Liebig's classification, to the potash plants. The clover sickness, to which we have so frequently referred, is sometimes occasioned by deficiency of lime in the soil; so also is anbury or finger-and-toe in turnips—a disease which rends and rots the parenchyma of the root, in consequence of its being obliged to send out shoots and tap roots in search of lime for its skin. A crop of two tons of clover removes one hundred and thirty pounds of lime from the soil; and the best application in clover sickness has frequently been found to be superphosphate of lime. Gypsum or sulphate of lime is also found highly beneficial. Lime absorbs moisture from the atmosphere with incredible rapidity, and a ton of quicklime, when slaked, acquires three times its original bulk, and weighs twenty-five cwt. The only advantage, however, gained by slaking lime, is its reduction to a fine powder, which enables it to be more evenly spread. But slaked lime very soon attracts carbonic acid from the atmosphere, and becomes once more carbonate of lime, the condition in which it usually exists, and whence the most abundant supplies are obtained by driving off the carbon in burning the carbonate of lime or mountain limestone in kilns, as one hundred pounds of this, when pure, contains forty-four pounds of carbonic acid and fifty-one pounds

of lime. Lime, therefore, by the process of burning, loses the whole of its carbonic acid, and a ton weight is reduced to eleven and a quarter cwt. The general opinion regarding the presence of lime in the soil, is that an arable soil ought not to possess less than one per cent. of lime, and that eight tons of burnt lime per acre would impart this proportion to six inches of soil. After a heavy liming no farther addition will however be requisite for six or eight years. A crop, at the utmost, removes only from one to two bushels per acre of lime; and the land, at this rate, gradually reverts to the condition in which more lime is required—faster—for the lime, by its own specific gravity, uniformly descends below the active soil, and there, upon digging a section, layer upon layer of each successive liming the land may have undergone will be found deposited. Lime not only enables crops of superior quality and bulk to be produced, it enhances the effect of undecomposed manure, by calling into action that which may have been lying dormant. Manure, however, ought never to be laid upon the land immediately after liming, because quicklime will drive off all its ready formed ammonia. Lime destroys marsh and heath plants, such as moss, heath, bent, and sour grasses, brings up sweet herbage with natural clover, and completely renovates the herbage. All fodder is found more nutritious when grown upon land sufficiently limed. The quantity of lime required varies in proportion to the dryness of the soil, its stiffness, and the amount of vegetable matter it contains. Poor arable lands are soon worn out by repeated liming and cropping. To exterminate moss, sour grass, &c., the lime must be applied in a live state. Generally speaking, the more completely and immediately quicklime is incorporated with the soil, the more effectually the slaking is accomplished in connection with the soil, the better. In over-spreading grass, however, where there is no intention of destroying the herbage, it is better first to slake the lime in the open air, reducing it to a powdery condition and applying it in the form of mild lime. In this state the quantity of quicklime still contained in it should, however, be sufficient to effect the necessary chemical changes in the soil; from this its ultimate efficacy depends. Quicklime should never be applied to light or thin soils, sands or gravels. Magnesian limestone has an effect similar to that of the mountain limestone. It is a carbonate of magnesia, in combination with carbonate of lime, and becomes caustic in burning, but must be used more sparingly than lime destitute of magnesia, since it re-absorbs carbonic acid more

slowly and remains longer caustic. Its application is more properly made to arable than to grass land, as wheat, barley, and all cereals require magnesia for the perfect development both of their straw and corn. Chemically supplying to the plant both lime and carbonic acid, lime, as an alkaline earth, neutralizes the humic and other acids naturally formed in soils, converts inert vegetable matter into stimulating food for plants, and aids the mineral decomposition of iron, magnesia, alumina, potash, soda, ammonia, and silica in oils. To its perhaps over-stimulating effects, in fact, may be traced the origin of the adage, "lime enriches the fathers but impoverishes the sons." Lime, however, does not necessarily exhaust the soil, unless applied with unsparing prodigality. The apparent exhaustion it produces is only perceptible in cases where the sole application to the land has consisted in laying on successive doses of lime, and where the supplies of other manure have been too scanty. It is where lime alone has been applied that abundant crops are followed by exhaustion. The presence of mild lime in the soil assists in the formation of nitrates; and the production of nitre or saltpetre is dependent upon those properties of lime whereby nitric acid is engendered from vegetable matter. That invaluable salt, nitrate of lime, is always to be found in compost heaps. "Under ordinary circumstances," says Professor Way, (Royal Agricultural Society's Journal) "and with the presence of moisture, lime is capable of liberating one-half the ammonia contained in a soil. In the case of ammonia locked up in the soil, lime may be the remedy at the command of the farmer, his means of rendering immediately available stores of wealth, which can otherwise only slowly be brought into use. In this view, lime would well deserve the somewhat vague name that has been given it—namely, that of a stimulant—for its application would, in some sort, be an application of ammonia, whilst its excessive application, by driving off ammonia, would lead to all the disastrous effects which are so justly attributable to it. I do not wish to push this assumption too far, but if there be any truth in it, it points out the importance of employing lime, in small quantities, at short intervals, rather than in large doses once in many years."

[TO BE CONTINUED]

The State Horticultural Society of Iowa passed unanimously a resolution approving the decision of the Committee in New York, who awarded the "Greeley Prize" to the Concord Grape.

Home-Made Super-Phosphates.

Seeing the extent to which adulteration is practiced by super-phosphate makers, in common with many other artificial manure dealers, the farmer may perhaps feel inclined to manufacture his own super-phosphate; and this he may do both easily and profitably by attending to the following directions. The most economical way is to begin some months before it is wanted; for though bones may be rapidly dissolved by means of sulphuric acid, that is both a somewhat dangerous and expensive process. Bones, though not readily dissolved by water, yield rapidly to the action of common salt, when mixed with urine, gas liquor, or any of the salts of ammonia.

Let us suppose a farmer to require bones for his turnip crop early in the spring: let him lay in his stock of bone dust, say 2 cwt. per acre, in the December previous. Let him mix these in a shed, or any covered place, with the same weight of salt, and to this add 20 bushels of finely sifted coal ashes, and water them with gas liquor, or liquid manure from his tank, if he have one, and turn them over every week or ten days; the quantity of liquor to use should be as much as they will absorb. This process, repeated for three months, will reduce them to a proper state, and, by the time they are required for use, he will have, at least, so far as bones are concerned, a sufficient supply to procure him an excellent crop. And now let us see the cost per acre:

	£	s.	d.
2 cwt. bone dust, at 6s. 6d.....	0	13	0
2 cwt. salt, at 1s.....	0	2	0
20 bushels coal ashes, at 1d.....	0	1	8
40 gallons gas liquor, at 1d.....	0	3	4
	£1	0	0
Labor, say.....		3	0
	£1	3	0

Here, it will be seen, at a cost of £1 3s., a farmer may supply himself with a sufficient quantity of super-phosphate for an acre of swedes, turnips, or mangels, and if he only take care that his bone dust is genuine, he has no occasion to fear adulteration.

If, however, as is too frequently the case, the farmer will not "take time by the forelock," and look out ahead, but prefers waiting till the last moment, even then I would recommend him to dissolve the bones he may require, sooner than trust to the uncertain compound he often purchases, as before mentioned. For this purpose, time being short, he will be obliged to have recourse to sulphuric acid. And here again he is likely enough to be imposed upon; and as no article varies more in point of strength, it will be necessary for him to be very particular in

making his purchase. He should, therefore, be careful in ascertaining its specific gravity. If under 1.720, it is not worth 1d per lb.; if 1.840, he may give 1½d. per lb. for it, that being about the market price for acid of that strength. Having procured his materials, he should proceed as follows: In a large, square tub, say 5 ft. wide by 2 ft. 6 in. broad, and 2 ft. deep, (lined with lead,) the bones should be spread evenly, and upon them should be poured half their weight of water; if hot, all the better; after steeping for twenty-four hours, then pour out the same quantity of acid; viz., half the weight of the bones.

These should now remain thirty-six hours at least, and be stirred at intervals during the time, when they should be taken out and mixed with ashes to such an extent as will make them sufficiently dry for drilling. The more they are stirred while under the acid the better, and the more thoroughly they are mixed with the ashes the better also; as, by so doing, the whole mass becomes more thoroughly incorporated. Although this method of preparing super-phosphate is more expensive than the former, I am inclined to think that it is, for the generality of soils, preferable, seeing that the sulphuric acid added is in itself valuable, as it forms an important constituent in all crops, but is often very deficient in soils, particularly in chalk lands, where, by setting free the carbonic acid, it enables plants to absorb it for their own benefit especially; and it also acts beneficially by dissolving other substances in the soil necessary to vegetable nutrition.—*Farming, by Thos. C. Fletcher.*

The Use of Lime.

To a correspondent in a distant State, who wishes to know about liming land, and when and how to use it, we have to remark that, in the few counties around Philadelphia, within a circle of fifty or sixty miles, so long as we have had any knowledge of farming, the occasional use of lime has been considered indispensable. On limestone soils it has been applied with good results to the extent of even one hundred bushels to the acre in a single season, such soils both bearing and requiring more than other soils not limestone. Fifty bushels, however, is the more usual quantity on good land, and on thin soils about thirty. This is renewed once in about eight or ten years. There are various opinions, but not much difference in practice, as to the condition in which lime should be applied. Newly burnt lime is generally hauled out to the fields at the most leisure season for the teams, and deposited in heaps of fifty to one hundred bushels, there to lay till it becomes slacked.

When thus hauled in the fall or early winter; it is spread early in the following spring, but we have known it to lay for many months. The inside of the heap, under the outer crust, is then found to be in a good state of pulverization, so as to spread pretty evenly.

This is the *common mode* of using lime in this section, but some farmers consider it very important to slack the lime with water while fresh from the kiln, and spread it while in the caustic state. This has been done the past fall by two of our neighbors—one of whom professes to have tried both plans. We know of one person who went to the trouble of slacking his lime with water, and then hauling it in heaps for future use. This was obviously useless, as there could be no intrinsic difference in the quality of the lime, whether converted into a carbonate by a slow or speedy process, if not immediately spread.

It is usually conceded that lime is not a manure, as this word is generally understood, there being very small quantities of it in the plants and crops for which it is mostly used. Its value may consist in its effecting new chemical combinations in the soil, and in its action on inert organized matter, promoting decomposition and neutralizing acids. Like many other phenomena in the farm and garden, its mode of operation is uncertain, and there is as much difference of opinion now as there was many years ago, when we first began to use it. It is well known that it *does* act beneficially, and this seems sufficient for our farmers, who have a saying that the main thing is to *get it on*, without caring much about its condition or the time of year it is applied. We have never known powdered limestone to be applied to the soil; and yet, in this condition, previous to the carbonic acid being disengaged by burning, it is chemically the same as after long exposure to the air. Caustic, or freshly-slacked lime, is in a finely pulverized state, admitting of a very even distribution and incorporation with the soil, and it would seem probable, that in this condition, it might more readily act in the decomposition of vegetable matter. But, if this is the chief effect of caustic lime, how are the extraordinary benefits to be explained, of a perfectly effete carbonate of lime, which has become so by a year's exposure to the atmosphere before being spread? We have frequently used it thus as a top-dressing, on old green grass fields, with great advantage, and this is a very common practice when they are well set with grass, and it is undesirable to plow them up. White clover often sets in as a result; the green grass has a stronger growth and a darker color, and both cows and feeding stock

eat it with a greater relish, and improve on it faster. Pastures, by being thus top-dressed occasionally with lime, become *permanent pastures*.

Lime, where we reside, cost twenty-four cents per bushel, delivered on or near the farm, and used in any form, or at any season, is considered to *pay*. A very popular time of applying is to ground newly set with grass after the wheat is removed. It is then washed down by rains into an open soil, in which it becomes thoroughly incorporated, and the grass receives the whole benefit for many years till it is again plowed up in the regular rotation of the farm. In regard to the inquiry about how it is spread, we reply it is usually spread from the cart in shovels, and a skillful hand soon acquires sufficient dexterity to cast it evenly. A machine invented in Lancaster county for spreading lime, distributed it faster and more regularly, but it is not in general use. —*Practical Farmer*. ✕

Value of Manures.

The subject of manures, underlying as it does all successful agriculture, has not received from the American farmer that attention it deserves. Many of our farmers can scarcely be made to appreciate the moneyed value of fertilizers in the same way as do the farmers of Europe. To one traveling abroad this feature presents itself with marked force—the saving and husbanding manures, and the investment of what we would consider large sums in the purchase of fertilizers adapted to special crops. We have seen farms in England upon which the rents and poor rates alone were nearly equal to the value of the whole product turned off from some of our New York farms of the same number of acres—farms, too, accounted good with us and well managed—and if we should inquire how these expenses can be met, and a fair living profit realized, it will be found that among the secrets of management the question of manures is better understood and their value more duly appreciated than with us.

From an examination of farms through the dairy region, we find the proportion comparatively small that is able to carry more stock now than ten years or more ago. It is generally claimed that our dairy lands are improving year by year. But can they or do they carry more stock? Every farmer should ask himself the question, since if his acres are made to yield a larger product annually, some progress is being made in his management.

We suppose there is no better or cheaper way of bringing up a farm to a high state of fertility than through the agency of cattle. Let the products of the farm be consumed upon the farm,

and all the manure carefully husbanded and judiciously applied, and there is good reason to hope that the land is being bettered in condition. But if three parts out of four of the manures be suffered to go to waste and are never returned to the land, progress will not be found to be of that rapid character which could be desired.—*Working Farmer*.

Soil and Manures for Hops.

Lawe's experiments with the hop have shown that to ensure success with this plant it is necessary to manure liberally with bulky animal and vegetable manures. During the past summer, in an examination of the hop gardens in the county of Kent, and the manner in which the crop is cultivated in that noted hop district, we found woolen rags, shoddy, skin clippings and fur waste; in extensive use in addition to farm-yard manure. Mr. Lawe remarks that in farm-yard dung the proportion of mineral matter, and of organic matter yielding carbonic acid and some other organic compounds in the soil, are comparatively large; but the amount of nitrogen or ammonia yielding matter is small. With this manure there should therefore be employed woolen rags or skin clippings, which are rich in ammonia yielding substance, but poor in mineral matter. Rape cake he says is always an exceeding good manure for hops, and Peruvian guano may also be used with advantage, in addition to, but not as a substitute for the more bulky manures.

The idea prevailed among hop growers in England, that soils made up of those constituents particularly favorable to the production of fruit, especially the culture of grapes, are the soils best adapted to hops, and this suggestion would seem to have some foundation, since the best hop regions in England are also the best for fruit. In conversation with the English hop merchants of London, they claim that the American hop is far inferior in flavor to those grown at home. That it has a peculiar rankness in smell easily detected, and which carries with it an unpleasant flavor in brewing—that this had a damaging influence on prices, and they expressed the hope that means should be taken to obviate the difficulty. There would then be a large demand for American hops of choice quality, and at top prices. If it be true that the American hop lacks delicacy of flavor as compared with that grown abroad, it may be well to inquire whether it results from the peculiar nature of the soil on which it is grown, the manner of cultivation, the inferiority of the plant, or some other cause.—*Utica Herald*.

Food for Plants.

Mr. R. Warrington, Jr., of Cirencester College, in a lecture to the Newbury Farmer's Club on this subject, states:

A crop of wheat yielding thirty bushels of corn will contain, besides water, about 1727 lb. of carbon, 1800 lb. of oxygen, 242 lb. of hydrogen, 49 lb. of nitrogen, and 98 lb. of incombustible matter, containing 11 lb. of lime, $6\frac{1}{2}$ lb. of magnesia, 33 lb. of potash, 19 lb. of phosphoric acid, and 98 lb. of silica, with small quantities of other substances. Now, from what sources did the wheat plant obtain these ingredients? We know that all carbon (charcoal) was derived from gas (carbonic acid) contained in the atmosphere and soil; that the oxygen and hydrogen were obtained from water; the nitrogen from either ammonia or nitric acid—substances to a very small extent in both soil and atmosphere; the lime, potash, silica, and other incombustible ingredients, we knew to be derived from the soil. These plant-food were the same for crops; with these in abundance, and suitable conditions of climate, &c., any crop could be grown. Plants had thus the wonderful power of producing such substances as starch, sugar, woody fibre, gluten, from a few simple gases, water, and the ingredients of rocks. The food of plants was, in this respect, a simple subject; when practically considered, however, it was not so. The farmer wanted to know what supply of food is afforded by nature, and whether this was sufficient for his crops, and consequently what substances he should apply as manures. As there was always sufficient water to supply abundance of oxygen and hydrogen, we had only to consider what was the amount of nitrogen, and ash constituents furnished by nature, and whether this supply is sufficient for the different crops. The quantity of carbon required by different crops was pretty uniform, amounting in most cases, for crops, of tolerable luxuriance, to nearly one ton per acre. The supply of carbonic acid in the atmosphere was, however, amply sufficient for this demand, excepting, perhaps, in the case of turnips, and other root crops, which seemed peculiarly benefited by measures yielding carbonic acid to the soil. The lecturer in concluding his address, said that each kind of crop had its peculiar strength and weakness—that it is much more able to supply itself with some parts of its necessary food than with others. In this truth, rightly understood, lay the whole theory of special manuring. The farmer by special manures sought to supply the particular substances that his crop would have most difficulty in procuring. To proceed successfully the farmer must know: 1st,

what food constituents his crop will require; 2d, what is the previous history of the field; 3d, what is the composition of his manures.

What is "One Horse Power?"

The use of the term "horse power" is very common; yet few, except good mechanics and engineers, attach a definite meaning to it, but regard it as indicating, loosely, about the power which one horse could exert. It is, however, when used in the sense under consideration, as definite as possible, and means the power required to lift 33,000 pounds avoirdupois one foot high in one minute.

A horse hitched to the end of a rope over a pulley one foot in diameter, placed over a deep well, traveling at the rate of about $2\frac{1}{2}$ miles per hour, or 220 feet per minute, will draw up 150 lbs. the same distance he travels. The force thus exerted is called, in mechanics, "horse-power," it being an approximation to the average amount of continuous power it is fair to demand of a strong horse. If we multiply the weight raised (150 pounds) by the number of feet it was moved per minute, (220,) the product will be the number of pounds which the same power would raise one foot high in the same length of time, (33,000 pounds.)

The dynamometer is an instrument made for measuring power particularly that exerted in drawing. Those used for testing the draft of agricultural implements are simply very strong spring-balances, or spring steelyards, graduated to indicate the power required to raise any weight, within reasonable limit, at the rate of $2\frac{1}{2}$ miles per hour. When we apply the dynamometer in ascertaining the draught of machines, if the index indicates 150 pounds it is shown that the horse is required to draw just as hard as he would do if raising 150 pounds out of a well with a rope over a pulley one foot in diameter at the rate of $2\frac{1}{2}$ miles per hour, and so for other weights.

The velocity at which a team moves is to be considered, as well as the weight to be raised, or the load to be drawn. If the horse travels faster than $2\frac{1}{2}$ miles per hour, while raising 150 pounds out of a well, he exerts more than one-horse power. If he walks slower than this he does not exert a force equal to one-horse power.

In ascertaining the draught of a plough or mower and reaper, by drawing faster than $2\frac{1}{2}$ miles per hour, the dynamometer would indicate more than the correct draught; and by driving slower, the draught would appear to be less than it really is. In testing the draft of machines a

team should always move at the rate of $2\frac{1}{2}$ miles per hour, or 220 feet per minute, which is the universally accepted rate with reference to which dynamometers are graduated, and an easy one to which to approximate in driving with almost any kind of team.—*Portland Price Current.*

Flowers and Vines in the House.

There are many beautiful botanical experiments which can be conducted in the parlor during winter, which are not embraced generally in the list of flowers and vines to be found in our parlors and windows.

How many of the fair readers of the *Telegraph* have the beautiful vine of the *sweet potato* running over their mantleself? This pretty sight can be enjoyed by placing a sweet potato in a tumbler or other glass vessel, filled with water, passing a pin through the tuber so as to keep the lower end from one to two inches from the bottom of the vessel. Keep on the mantleself, in a warm room, and every day give it sun for an hour or two, and in a few days rootlings will begin to appear, aiming for the bottom of the vessel, and in two or three weeks the eye will begin to shoot and rapidly grow and run upon suspended twine or any little trellis work prepared for it. The *dioscorea batatas* is the prettiest for this purpose, when it can be obtained.

The "Morning Glory" can be propagated in parlor windows, where there is some sun, to perfection during winter; it flowers with its natural colors, and the delicate little vine can be made to run over the window. A hanging vase is the prettiest for this.

Suspend an acorn by a cotton thread so as nearly to touch the water in a glass vessel, (a hyacinth glass is perhaps the best,) set upon the window and mantel, and let it remain there for eight or ten weeks, more or less, without being interfered with, except to supply the evaporation of the water, and the acorn will burst, and as it throws a root down into the water, a sprout or stem will be sent upward, throwing out beautiful little green leaves; thus giving you an oak tree, in full life and health within your parlor!

There are many of the mosses which can be very successfully grown in the house through the winter, and with the foregoing form an interesting and refined enjoyment for the females of a family and real pleasure to all who have a taste for the beautiful to witness. We trust to see a greater inclination on the part of the ladies to introduce into their houses this most agreeable addition to their domestic pleasures.—*German-town Telegraph.*

The American Farmer.

Baltimore, March 1, 1867.

TERMS OF THE AMERICAN FARMER.

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RATES OF ADVERTISING:

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One Square.....	\$2.00	\$5.00	\$10.00	\$15.00
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One Page.....	25.00	60.00	110.00	200.00

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Near Exchange Place.

BALTIMORE.

ERRATUM.—At the very beginning of the communication of "Palmetto," on page 271, the quotation "Jam satis nris" is made very ridiculous by changing the first word into the two English words "I am;" as if Old Horace, who didn't profess to know a word of English, had undertaken to express himself in that language, and broken down. And some lines below, instead of "et id, &c.," the types have "it id, &c."

We take especial care to guard our correspondents against the annoyance of such errors, and are generally, we think, successful. In this case the editor examined two "proofs," and made careful correction of the very mistakes here noted, only to find them appearing again when too late for correction.

APPRECIATION OF THE OLD FARMER.—"Long absence from the country prevented the reception of your esteemed favor, until a short time ago, when I received also the July, August and September numbers of your admirable *American Farmer*. It the ablest and best journal of its kind published in the United States, beautifully printed, and on nice paper. The South ought to sustain you well for publishing so excellent a paper." A. M. G., Opelika, Ala., Jan. 27, 1867.

NOVEMBER NUMBERS OF FARMER WANTED.—Exchanges, or subscribers who may have November numbers of *The Farmer* that they do not mean to preserve, will confer a favor upon us by sending them to us by mail—our issue of that month having run short of the demand for them.

Payment of Subscriptions.

We find that some of our readers, who have failed to remit for current issue of the *Farmer*, have been under the impression that there were balances due on former payments, which the numbers sent were intended to cover. We would say to them that the cases of this sort are very few, and all who stand thus, are duly credited and notified of the fact. Those who have not remitted since our reissue in July, may be quite sure that their subscriptions are now due, and we beg they will give them prompt attention. We know they need no argument on the propriety of the matter, and we mean to make none. We know they intend to pay in some short time, but the trouble to us is, that on these short dates, they take too many "renewals."

In connection with this, we ask attention to the following from a gentleman, who, in the past, was a Representative of Virginia in the National Councils, and is one of her first citizens. We have taken pleasure in this case, and very many others, in asking the writer to accept the paper without charge, and, in order that we may be able to continue to do so in like cases, and to enlarge this list, we only ask our friends, who have the ability, to pay us promptly, and whenever they can, to send us a new, paying subscriber. We have reason to believe that the *Farmer* has never been so highly valued by its readers as now, and we are sure there was never so much need of its services. We ask the help of all in widening the sphere of its usefulness, and in giving us the ability to increase its value.

—, Va., February 4, 1867.

GENTLEMEN—I have been for many years, and up to the time of the war, a subscriber to your valuable periodical, the *American Farmer*, but the loss of all of my negroes, and much other property, all worth at least \$75,000, has driven me to the village, and rendered me unable to take your paper, even at its very low price. You have, notwithstanding, sent me several copies lately to this postoffice, and I directed the postmaster to inform you that I could not subscribe now, and desired him to have the paper discontinued. I take great pleasure in recommending it to the farmers in the neighborhood, and wish that I could advance its circulation.

With best wishes for your success, I am, gentlemen, with great respect, your obedient servant, &c., &c.

Attention is called to the new and varied advertisements in this month's number.


OUR CORRESPONDENCE as published in this number will be found of unusual variety and interest. We invite a free discussion of such topics as our friends have introduced, and hope that they, and many others who we know to be most capable, will aid us in disseminating good thoughts, and good words, among those who are struggling to build up again the homes and the fortunes, which have been stricken down by the rude hand of war.

The suggestion of H. H., who writes from Augusta, Ga., under the heading of "Large Farms and Associated Capital," will command attention. The points he makes are well taken, and we hope the topic will be further discussed by himself and others. There can be no doubt that large bodies of land may be more economically worked than small, and in the present want of capital in the Southern States, his plan will, we think, prove in a great many cases, both "practicable and practical"—that is, it can be carried out, and will prove very suitable to the exigencies and circumstances of a great many Southern land-holders. It will enable them to do what should be first in their thoughts,—hold their lands until time shall, in a measure, work its remedies for present evils.

This article, Mr. Hansen's on reducing the limits of cultivation, Mr. Gilmer's on the same, and on the application of small quantities of lime on wheat in the spring, F., near Richmond, on the Improvement of Poor Land, "Palmetto" on Draining and other topics, all aim at the solution of the great Southern Problem, "What shall we do with our lands?" It is a problem which commands the hearty interest of every true man, and on which there should be the freest interchange of opinion.

For the many other articles of direct practical use, as that on Diseases of the Spleen in Cattle, Trees, cultivation of Basket Willow, Speculations on Potato Planting and others, the authors have our thanks.

THE MICHIGAN STATE AGRICULTURAL COLLEGE.—We are indebted to President T. O. Abbot for a copy of his very satisfactory and interesting report of the condition of this Institution. The number of students during the year past was 108, filling all the rooms, and 38 were sent away for want of accommodation.

 A cargo of 6,600 bushels of wheat from California, arrived at Philadelphia on 26th December, in good order, and said to be of excellent quality.

STATE AGRICULTURAL SOCIETY.—A bill has been reported to the Maryland Senate by Oden Bowie, Esq., of Prince George's county, to incorporate the Maryland State Agricultural Society, and to appropriate \$25,000 for the purchase of a permanent location for its annual exhibitions.

We cannot doubt that the Legislature will pass, without serious opposition, a measure intended to foster and encourage the agricultural interests of the State. The advantages arising from such an association of the farmers of Maryland are too palpable to need enumeration, and its failure for want of requisite support by the State Government, would be a reproach upon the public spirit and intelligence of our legislators, that we will not anticipate for them. We look confidently for the passage of the bill.


COPPERAS.—A. C. S., Joyner's Depot, N. C., inquires "whether or not copperas injures manures of any kind, by being dissolved or mixed with them; or does it add or not add anything to their value for crops of any kind?"

Copperas is sulphate of iron, and when applied as mentioned, acts upon the manure as gypsum would, which is sulphate of lime, as a fixer of the volatile gases. It has this good effect, therefore, besides adding sulphuric acid. It can do no harm, and is an excellent deodorizer.

APPLICATION OF ASHES.—A correspondent, at Charlestown, Va., says "I have a large pile of leached and unleached ashes. Would it be advisable to sow it heavily, broadcast, on wheat, or scatter it with a shovel."

They can be more evenly distributed by hand, but ashes absorb moisture rapidly, and when damp, soon make the hands sore. It is better to throw them, broadcast, from the cart, with a shovel.

COL. H. T. GUION'S ADDRESS.—A friend in North Carolina favours us with a copy of this able address, delivered before the Agricultural and Wine-growing Association of Craven county, N. C. We had hoped to make use of a portion of it, but the press of other matter on our columns has made it impossible. The author is very sanguine in his opinion of the profits of wine making in the old North State.

 On the pine lands of Georgia, which possess a quick, warm soil, two crops are frequently obtained. A wheat harvest is gathered in June, a corn crop is then planted which ripens by the last of October.

GAS HOUSE LIME.—A correspondent, at Charlottesville, Va., inquires as to the value of gas house lime. We should be glad to hear from those who have used this lime, as to their experience, and how they have treated it. The gases absorbed by it in the course of purification, are hurtful to vegetation, and it should not, when fresh, be brought into contact with a growing crop. After exposure for some time, it loses these deleterious properties, and its effect upon the soil is like that of other air-slaked lime, not very active in its effects, but of lasting benefit.

We should consider it well worth six cents a bushel, where the hauling did not exceed a mile or two, but would apply it on sod land some months in advance of ploughing, at the rate of fifty bushels to the acre.

Our correspondent will conclude, too, from what we have said, that the longer the time after having been used, the better, provided it be not lumpy, and is in good condition for spreading.

"THE CONFEDERATE BEAN.—The most valuable variety in existence. Plant in very deep, rich soil, in checks four feet each way, one (1) stalk in a hill. Support with poles four (4) inches in diameter, with strong cross pieces. This bean will bear not only freely but wonderfully, from spring until frost. Please give it a thorough trial in the grounds of the Agricultural College. Brought to notice first in Shelby county, Tenn., by Rev. Mr. Holman, M. E. Church South. Named by George W. Gift."

We are indebted for the above to a valued friend of the *American Farmer*, at Memphis, Tenn. We shall hand over the *Confederate Bean* to Mr. Barker, at the College, and do not doubt he will give it a fair trial, and make report in due time.

Mr. Edwin A. Lewis hands us a package of Chilian beans, reported to be valuable, to which we shall give the same direction.

SCUPPERNON GRAPES.—A correspondent at Upper Marlborough, Md., informs us, that he brought with him some years ago, from Alabama, plants of the Scuppernong, which he planted. They died to the ground the first winter, but in the spring following put up thrifty shoots from the roots, and have not since been damaged, but have bloomed and fruited regularly.

This grape has great value for wine in the South, and if found hardy enough for this latitude, will make a desirable addition to our list of wine grapes.

Book Notices.

THE SOUTHERN REVIEW—We are in receipt of the first number of this Review, published in Baltimore, by Professors Albert Taylor Bledsoe and William Hand Browne.

It is designed—to use the words of the editors—"to supply a need long felt in the South; the need of an organ for Southern men of letters, and of a high class of periodical literature for Southern readers."

The number now issued answers fully the expectations of those, who looked for a publication of the highest order of its class, and we commend it to the good offices of such as appreciate a work of its character.

The contents are: I. The Education of the World. II. The American Viri Romæ. III. The Legal Status of the Southern States. IV. Craftsmen's Associations in France. V. The Daughters of De Nesle. VI. Mental Physiology. VII. Earl Stanhope's Life of Pitt. VIII. The Imprisonment of Davis. IX. Book Notices.

It is published in quarterly numbers of 250 pages at \$5 per annum in advance.

BLACKWOOD FOR JANUARY.—We have this number from the Leonard Scott Publishing House, with its usual variety of most readable matter. The contents are—Our Naval Defences. Nina Balatka, concluded. Sir William Parker, the Admiral of the Fleet. Conington's Translation of the *Æneid*. Cornelius O'Dowd. The Campaign in Western Germany. Women and Children in America. Brownlows Part I. Who are the Reformers, and What do they Want?

THE SOUTHERN FARMER.—This is a new candidate for favor with the Southern Agricultural community, and we anticipate for it great success. The first number gives assurance of its quality, and it is under the guidance of one of the most experienced and intelligent agricultural writers in the country, Dr. M. W. Phillips. The *Farmer* is in quarto form of sixteen pages. Published at Memphis, Tennessee, at \$2 per annum. Address M. W. Phillips & Co.

RURAL JOURNAL AND FIELD AND FIRESIDE.—We are in regular receipt of these valuable journals, the one a literary weekly, and the other an agricultural monthly, published by the enterprising firm of Wm. B. Smith & Co., Raleigh, N. C. We are glad to believe that publications of so much value are duly fostered by our Southern friends. The *Field and Fireside*, \$3, The *Rural Journal* \$1 per annum.

SOUTHERN PLANTER AND NEW ENGLAND FARMER.

Two old friends and co-workers have simultaneously "renewed their youth," and come into the field again after years of rest. We heartily welcome both.

The *Planter*, at Richmond, edited by Charles B. Williams, Esq., bids fair for improvement on even its former excellence. It is well filled with good matter, suitable for Southern readers, and useful everywhere. Published in Monthly numbers of 64 pages, at \$3 per annum.

The *New England Farmer*, published at Boston, is one of the best of the Northern Agricultural Monthlies. It is published by R. P. Eaton & Co.

THE HOME MONTHLY.—Edited by Prof. A. B. Stark and Rev. Phelix R. Hill, and beautifully printed at the Southern Methodist Publishing House, Nashville, Tennessee, is one of the handsomest and best family Magazines in the country. We take great pleasure in the success with which our Southern friends are getting up a home supply of good reading. Price \$3. Stark & Hill, Nashville.

TURNIPS, WYANDOTTE AND PEABODY CORN.—The following is an extract of a letter from a correspondent, at Waterford, Loudon county, Va.:

"I will give a suggestion to your Newbern correspondent with regard to turnips. The cold snap having caught a portion of my turnip crop in the ground where they grew—the turnips being sown in drills thirty inches apart—I used a single horse and plough, throwing ground up and on to the turnips in drills. The ground being somewhat frozen prevented the work from being as well done as it otherwise could have been; but I am satisfied that if done when the ground is in proper order, turnips can, in this manner, be secured through winter, and with half the labor of gathering and removing and securing in any other way.

"I would be glad to get information in regard to the Peabody, Wyandotte, and other prolific corn mentioned by the *Farmer* of March, 1858. It is surprising that corn so remarkably prolific should not have become more generally known by this time, unless forgotten amid the civil and political revolutions occupying the public mind so many years. If not known to be a failure, can you give information where such corn can be obtained in small quantity for seed?"

Respectfully, &c.

The Detroit Tribune estimates the wheat crop of Michigan, for 1866, at 12,000,000 bushels.

Barley.

Information is asked by a correspondent on the cultivation and management of this crop. It has been so little grown in Maryland, that it is to be presumed there is some good reason for its neglect, but what it is we are not prepared to say. We should judge, from what we have an opportunity of knowing, that it would be found more profitable than spring wheat or oats.

The seed should be sown as early in spring as the ground can be got ready, and upon fresh ploughed land. Two to three bushels is the proper quantity of seed per acre, varying the quantity with the strength of the soil.

A light, rich, loam is the best soil for it, but it will do well on light soil, fertilized with guano or super-phosphate. To make a full crop, the land should be as rich as we would make it for a good crop of wheat. It has the peculiarity of yielding well on very highly manured soils, where wheat and oats would fail, and fail to give a return of grain.

The preparation of the ground is the same that would be made for a crop of wheat or oats, and it may properly take the place of oats in any ordinary rotation. It follows corn advantageously, and may be followed by wheat.

It affords a much better cover for grass seeds than oats, and is a very suitable crop when the ground is to be laid to grass.

It is harvested like other grain crops, and may be threshed and taken care of in the same way.

There is ready sale for it in the Baltimore market, at a fair price. For feeding stock it is said to stand about midway between oats and corn, being well relished by stock of every kind, and making pork of as good quality as corn. The straw is softer than other kinds, and preferred by cattle. The yield per acre should vary from twenty-five to sixty bushels, according to the suitableness and fertility of soil.

With the present labor difficulties, it will be found necessary that a portion of the land we would devote to grain be cultivated in some crop less expensive than corn, and while we do not, as at present informed, advise too large a resort to barley, we think it may be tried, with the prospect of proving a more profitable crop than our other spring grains.

We hope our correspondent, and others, will find in the brief remarks we have here given, sufficient information to guide them.

Attention is called to the opportunity offered to obtain goats of finest quality, in exchange for other stock. See advertisement.

Alkaline Phosphate.

We have been repeatedly asked for an opinion upon this class of manures. This can be best given by making a few statements of what we believe to be ascertained facts in reference to manures in general.

The active capital of the soil is the available quantity of plant food it contains. We say *available* quantity, because there is in every soil a very considerable amount of plant food which is not available. For example, the alumina, which used to be considered a totally inert substance chemically, and to be valuable only as conferring certain physical qualities upon the soil, is now conceded to be a very energetic chemical agent. It stores up in the arable crust of the earth the important ingredients, ammonia, potash and phosphoric acid. It withdraws them from circulation, to borrow a phrase from the bankers, and locks them up as an investment. Consequently, every soil, in process of time, becomes more or less charged with these comparatively inert combinations of materials essentially necessary to the growth of plants. They are thus carried back to a condition analogous to that insoluble mineral state from which they emerged by the aid of the decomposing force of air and atmospheric water. Upon these forces they must again depend for their restoration to activity.

How rapidly this locking up is accomplished, we know from Way's admirable researches upon drainage water. That distinguished agricultural chemist discovered that the water drained off from land heavily manured, season after season, with salts of ammonia and super-phosphate of lime, contained mere traces of ammonia and phosphoric acid. It appears, therefore, that much of our manure is thus invested year after year. Now, such combinations as these are not available for the support of vegetable life; thus, in the process of tillage, combinations of comparative insolubility are in constant process of formation. It is true that these are not lost, but may be rendered available by merely increasing the facilities for decomposition; for example, by deep ploughing or finely pulverizing the soil.

It plainly then is necessary, if we would maintain our lands in a uniform condition of fertility, that we must steadily manure them year after year. Every year a portion of the active capital is thus withdrawn and transmuted into a reserve fund. Hence we are obliged to keep adding to our stock of active capital in the way of manure, even although we take off each year less than we put on.

It is very evident that we must add the three

substances which alumina withdraws, viz., ammonia, potash and phosphoric acid. But a *fortiori*, we should also add those materials which alumina does not retain, and which, therefore, pass away with the drainage water or sink into the subsoil below the roots of the growing plants, such as soda, sulphuric acid, chlorine, &c. Every one of these substances has its use in the economy of vegetation, and cannot be dispensed with. It is idle to say that one element of fertility is more important than another. They are all, in their relative proportions, of equal value. A chain is only as strong as its weakest link. If, for example, a soil has nitrogen enough, available for the purposes of the growing crop, to furnish forty bushels of wheat to the acre, but has only potash enough for ten bushels, ten bushels will be the limit of its production, although everything else may be present in sufficient quantity for the larger yield.

It is plain, then, that no man can manure judiciously who confines himself to two or three ingredients, and trusts to nature to furnish the rest. He must put back at least as much as he sends away, or his soil will grow steadily poorer. For this reason we are glad to see some attention paid, by the manufacturers of concentrated fertilizers, to other substances besides ammonia and phosphoric acid. When alkalies are introduced, in connexion with ammonia and phosphoric acid, a twofold advantage is obtained. In the first place, there is given to the soil a supply of indispensable plant food to furnish the growing crop, and to substitute that portion of the available capital of the soil which has been retired during the past season. Secondly, there is added to the re-agents already present in all fertile land, another promoter of that decomposition which brings out the constituents of the rocky fragments that form the basis of soils, and which renders them fit to play their part in the development of vegetable organization. It cannot be too strongly impressed upon the minds of farmers, that every ingredient of a soil is, in its relative proportion, equally indispensable, and that if they confine themselves to a few, under an impression that they are of paramount importance, they are pursuing a ruinous policy. It may be true that the soil contains large quantities of those neglected elements of fertility; but even if it does, it is manifest that the removal of them in the crop, without sedulously returning them, is surely and steadily, though it may be slowly, impoverishing the land.

Losses by cattle disease in England are summed up at \$17,865,000 in gold.

For the "American Farmer."

Large Farms and Associated Capital.

Messrs. Editors: Will you allow me, in response to an article on the "Division of Farms" in your February number, to make a suggestion. If it should not seem to your readers to be what is commonly called a "practical" one, I think it might be shown to be practicable at least.

The fact being, that, the impoverished people of the South find great difficulty in obtaining sufficient capital to work their lands, any inducement that may be offered to capitalists to invest in our undertakings becomes a matter for consideration. I propose in the place of dividing estates, to combine them. Let planters occupying a district of several square miles have their lands appraised, and offer them at a fair valuation as so much stock, to any parties able and willing to form a joint stock company, and furnish capital for their cultivation and improvement. Why would not the advantages of an intelligent direction, furnishing skilled superintendents and overseers, and supplying the requisite capital, be as great in planting operations as in the management of railroads and factories? I believe it would be much greater, and that a larger dividend, on a smaller capital, would be paid by an association for agricultural purposes than for almost any other industrial pursuit. The outlay would be less, and the return more immediate and certain. Let me enumerate some of the advantages.

Boundary lines would no longer put a stop to such improvements as are made by dams and ditches.

Poor land would not be worked from want of any other; and fertile lands would not be unproductive for want of capital, enterprise or skill.

Larger capital would not only procure greater skill, but more improved methods of machinery, a division of labor would be practicable, and skilled employees could be obtained in the various departments of mechanics, chemistry, engineering, &c., that combine to make the perfect planter.

The amount of fencing would be much diminished, (an immense *saving in itself.)

The various crops would be dove-tailed together under one direction with advantage, and grazing on unimproved lands made possible and profitable.

Villages might be located at suitable points to contain reservoirs of labor. Negroes would flock to such villages; and an enlightened administration would make of them what they once

were, the easiest managed, and best class of laborers on earth. In this way the whole difficulty of an uncertain supply of unreliable labor might be removed.

Immense saving in the purchase of all the necessary supplies. But I trespass on your space. Let me ask, have not such associations been formed elsewhere? Has not much been done by them of late years for the improvement of Ireland and in effecting the drainage of lands in England, and in Europe? Is not the superiority of English agriculture due to the large farms, and the large means of English agriculturalists? Has not the small farm system in France proved a draw-back to agricultural prosperity and improvement?

In conclusion, let me say that I feel sure that properly organized companies could obtain lands here for a low rate of interest on a very moderate valuation.

AUGUSTA, GA., Feb. 8, 1867.

H. H.

For the "American Farmer."

SPRING BANK, NEAR ALEXANDRIA, VA.,
February 6, 1867.

Messrs. Editors:

In the February number, just out, I have noticed that your correspondent, R. S., states that "the sunflower will yield eight tons of green fodder per acre," and that "horses and mules eat the entire plant and seed with as much avidity as the best hay." Now this is a matter of great interest to all persons in this part of the country, where labor is so scarce and high. Will you, or R. S., or some other correspondent, give us an account, through the pages of the *Farmer*, of the mode of cultivating the sunflower, when to cut, and how to cure the same. These particulars will be of great interest to, and will much oblige

A SUBSCRIBER.

"A 'NO-FENCE' LAW.—The Alabama Legislature passed a "no-fence" law for Montgomery county. The act makes it unlawful for the owner of any horse, mule, cow, hog, sheep or goat voluntarily to permit such animal to go at large, and provides for a penalty for doing so."

We wonder that this matter of fencing has not received more attention. Do our Southern people mean, in their present circumstances, to tax themselves with the enormous cost of renewing all the fences that have been destroyed? Is there any necessity for it? Should not every one be required to keep his own stock within his own enclosure?—[ED. FARM.

* Mr. Biddle estimated the cost of farms in Pennsylvania at \$100,000,000, and their annual expenses at \$10,000,000. (The Plough, the Loom, and the Anvil.)

For the "American Farmer."

Labor Question Again—Change of System.

CLIFTON, FAIRFAX COUNTY, VA.

February 8, 1867.

Editors of American Farmer:

The war has left us a comparatively small number of hands, and I regret to say, this small number is *mostly* very unreliable. The consequence is, that we, more *now* than ever, will have to pay our *strictest* attention to obtain the *highest possible* products from a *smaller* area. To effect this result it becomes necessary to adopt a proper rotation. Without such, our manure, produced on the farm, would never reach to keep our land in a proper state of production. I know it will require a good deal of self-command to throw out, perhaps half or more of the open land, and be content to work only a comparatively small portion of the farm. But, believe me, if the system, which I am going to propose, is fairly and strictly adopted, not *one* of my followers will regret it. Of course, the system cannot be *jumped* into, but has to be adopted *gradually*, to prevent any sudden drawback in the income.

Let us suppose you have been farming 250 acres, as follows:

80 acres with corn at 20 bushels = 1600 bushels, at \$1 =	\$1,600
80 acres with wheat at 15 bushels = 1200 bushels, at \$3 =	3,600
90 acres with clover and timothy at 1500 bushels = 62 tons at \$15 =	930
	<hr/> \$6,130

EXPENSES.

8 horses at 30c. per day =	\$876
6 hands at \$20, (wages and board) per month =	1,440
Wheat for seed, 160 bus. at \$3 = ..	480
Corn for seed, 10 bus. at \$1 = ...	10
Mowing and curing 90 acres at \$2 per acre =	180
4 tons of guano at \$80 =	320
	<hr/> 3,306

Profits..... \$2,824

You determine to reduce your farming to 96 acres. This 96 acres would be divided into six fields, and the following, or a similar rotation, according to soil, might be adopted, 1, wheat in clover stubbles; 2, potatoes, (manured;) 3, corn, rye and turnips, (white stubble), sowed with the last ploughing for pasture for sheep; 4, oats with clover and timothy; 5, clover and timothy for hay; 6, pasture, or if the land is rich, again cut for hay.

16 acres wheat at 20 bushels = 320 bushels, at \$3 =	\$960
16 acres potatoes at 130 bushels (besides planters) = 2400 bus. at 75c. =	1,800
16 acres corn at 25 bus. = 400 bus. at \$1 =	400
16 acres oats at 25 bus. = 400 bus. at 50c. =	200
32 acres hay at 2000 bus. = 32 tons at \$15 =	480
	<hr/> \$3,840

EXPENSES.

4 horses.....	\$438
3 hands.....	720
32 bushels wheat for seed at \$3....	96
2 bushels corn.....	2
Mowing and curing 32 acres hay...	62
	<hr/> 1,318

96 acres = Profits = \$2,522

Besides, you have left 150 acres for permanent pasture, part of it perhaps, able to be converted into meadow. This 150 acres will fatten your 400 sheep at a profit of \$1.50 per head... \$600
Profits of 96 acres..... 2,522

Total profits.....	3,122
By the old system—Profits.....	2,824

Profits in favor of six fields..... \$298

By the six field system your investment in horses and implements is only half against the old way of farming, consequently your risk and interest on money invested, only half. By the six field system your land is enriched every year, whereas by the old system your land degenerates. But, in my opinion, one of the greatest advantages of the farming of a smaller area, is the *reduction* of hands. You may certainly more easily obtain three good hands, than six. It relieves you of half the trouble in regard to hands, and this I consider fully as great an item as any other advantage. Let us *study* agriculture, for it is *verily* a *science*, let us try to combine the great theories advanced by men like Liebig and others, with practice, first *cautiously*, and if proved successful, *boldly*, so they may become *blessings* to our fellow men.

L. A. HANSEN.

The Utica Herald quotes Messrs. Cordey's Annual Circular, London, January 1st, as saying that American cheese "where the description is really choice, is as readily taken as first-class Cheddar by ordinary consumers."

A writer in the American Stock Journal says that costiveness and its accompanying evils are the main cause of sows destroying their young, and that green and other proper food are the preventive and cure.

For the "American Farmer."

Small Doses of Lime on Wheat.

DEAR SIR: In looking over your number for January, I find an article on lime upon wheat. Thinking my own experience on that subject may possibly be of some service to my unfortunate brethren in these hard times, I will, if you think proper, give it to them through your paper. My books and papers are so misplaced, I cannot now refer to dates, as I would like to do so, but must give it from memory the best I can. Some years before our unfortunate war, I saw an article, I think, in the Farmer's Register, from somewhere about Waynesborough, Augusta co., of this State, giving the (as I then thought) marvelous effects of lime sowed by hand upon alternate beds of wheat. I did not believe it, and did not try it. The next year I saw an article from Dr. Charles Brown, of this county, referring to, and endorsing that article from his own fair trial of it. I saw the Dr., heard his account; knowing him as I did, I believed it must all be true. I tried it fairly myself and found it so true, I practiced upon my next three crops of wheat, which were three of the very best crops of wheat I ever made. The war came on, which stopped everything of the sort with us. The war is now over, but has left us all so poor, we can now hardly do anything which costs money. Last fall I purchased some seed wheat and guano of Messrs. Peyton, Carey & Co., of your city, seeded it in good time, and it looked well when last seen—but covered with snow for five or six weeks, a good prospect for a fair crop, yet I am disposed to give it every chance to do its very best, for we do need all it can possibly do, and I am now contracting for four hundred bushels of lime at Fishersville, Augusta county, to be delivered at the Charlottesville depot, from thence to be wagoned over nine miles of rough mountain road, to be slaked and sowed over my wheat crop next month by hand. Now, sir, to do this requires the strongest kind of faith gained by experience. Hard as are the times with us, and doubtful as is our labor now, I could not attempt to do this on any man's say so; nor do I advise any one to do it on mine. All I have advised any of my friends to do is just to procure one barrel of lime costing two dollars, slake it well, take it to the field of wheat, step off one acre, and sow it himself, put up no stakes, nor marks, and if it does not so loom up, as to cry out for itself, (*Here am I*;) then he can let it alone for the future. What can we get lime in your place at, delivered in Charlottesville? This is written alone for the benefit of my hard pressed and impoverished

brethren of the plough. Your "Farmer" has reached me, for which accept my sincere thanks.
Yours, truly,
GEO. C. GILMER.

January 23, 1867.

For the "American Farmer."

Improvement of Poor Land.

If the land be stiff, plough deep in the fall—open all the bed and water furrows so that no surface water shall lie on the land. In the spring apply lime, twenty-five bushels per acre, reduce the soil to a perfect tilth by rolling, harrowing and cross-harrowing, and plant in corn. Cultivate this crop thoroughly with the harrow and cultivator until it is breast high—sow two bushels peas per acre, cover with cultivator. This completes the culture of the corn crop.

As early as it can be safely done, cut down the corn and remove it so as to give the peas the full benefit of the sun and air. When matured, plough under the peas, vine, and all—roll, sow wheat, harrow in, and before a rain, sow one peck of timothy per acre. In the following spring sow clover.

When the wheat is harvested, sow one bushel plaster per acre—which repeat the last of the following March. When two-thirds of the clover bloom has turned, cut and cure for hay—apply all the stable and barn-yard manure, and straw as a top-dressing, and repeat the plaster, and in the fall when the clover is ripe, plough in and seed to wheat and timothy as before.* Let the field lie in grass two years, when the round will be commenced again by ploughing in the fall for corn.

The cost at the ruling prices of last year is as follows:

25 bushels of lime at 20c. per bushel.....	\$5 00
2 bushels peas at \$2 per bushel.....	4 00
$\frac{1}{2}$ bushel timothy at \$5 per bushel.....	2 50
$\frac{1}{3}$ bushel clover \$9.50 per bushel.....	1 19
3 bushels of plaster at 50c. per bushel...	1 50

\$14 19

I do not know the price of plaster, but I suppose that 50 cents a bushel will be enough. The total cost in money will be \$14.19 in the course of seven years, or \$2.02 5-7 per annum.

This course differs somewhat from the system advised by "A. M." in your February number, and involves a less outlay in money by \$1.38 cents per acre.

* If the money could be spared, 200 pounds of guano and bone-dust, in equal proportions, might be advantageously put in with this crop of wheat, increasing the crops of grain and grass.

N. B. All the manure that can be made on the farm should be applied to the clover and grass land.

A "clover stand" in Eastern Virginia, even upon well limed and highly cultivated lands, is by no means a certainty, owing mainly to our climate. A pea crop rarely, if ever, fails. On lands like that we are now seeking to improve, it would be almost a miracle to get a good clover stand, while on the other hand, we might confidently look for a very respectable pea-crop, aided as it would be by the beneficial effects of the lime.

The pea fallow is but little inferior to a clover fallow for wheat—and on Dinwiddie land limed, as suggested, with a moderate fallow of peas, I would confidently look for ten or fifteen bushels of wheat per acre. The smaller yield at present prices, say \$2.50 per bushel, will pay all the expenses for the whole course.

Realizing by experience the repeated failures in securing a clover "stand," I have combined timothy with the clover, so as to secure a cover. If both the clover and timothy failed, I would try a second pea fallow. If the land be unsuitable for timothy, I would substitute orchard grass, a bushel per acre in the fall, and like quantity in the spring. Even on this poor land, with the aids afforded, three-fourths of a ton of hay per acre would not be too high a calculation. The turning under of the clover and timothy would add yet more fertilizing matter, and fifteen to twenty bushels of wheat might be hoped for.

One other objection to "A. M.'s" system is that Dinwiddie would have to wait rather long for the reimbursement of his outlay—a serious matter with the farmers of the South.

I think "A. M." might improve his course sensibly, if he would allow his first crops of clover to fall and plough them with his second crop under. He would thereby greatly increase the vegetable matter for the active employment of the large dose of lime he administers. I can but think that he loses much by fallowing his clover in May and June, leaving a naked surface exposed to the scorching suns of our summers. Besides, very few farmers would find the time in May or June for so heavy a job.

It has been with great diffidence that I venture to give my views upon so important a subject as the permanent improvement of poor land: but I made up my mind when I laid aside the sword to do all I could to rebuild the broken fortunes of myself and countrymen, and if I have contributed anything to this end by this communication, I shall have my reward. I thank "A. M." for the Samaritan spirit which has evoked from "Nazareth," his kindly efforts in behalf of Southern improvement. Blessings be upon all who lend us, in our hour of need, a help-

ing hand: and the fullest success to my old friend the "American Farmer." F.

NEAR RICHMOND, Feb. 4, 1867.

For the "American Farmer."

Cultivation of Basket Willow.

Many experiments have been made to cultivate the "Basket Willow" with more or less success. The experiments and results of them made by cultivators upon low swampy lands are much wanted, and should be communicated for the benefit of those who have lands comparatively worthless for any other purpose. The willow is not only capable of being grown on low swampy and meadow land, but on dry banks and flat sandy land. But the best land adapted to the successful culture of this desirable addition to the farmer's products and profits, are the low flat meadows bordering upon streams, &c. There are in Maryland thousands of acres of land, that with good cultivation, (*which consists entirely of preventing any coarse weeds from overgrowing the plant,*) would produce from one to two tons per acre. The cost of raising the "Basket Willow" consists in selecting a soil that it is always damp, and if flooded in winter and spring it will not be at all damaged. It has been our practice to first drain the land by cutting open ditches about twenty-five feet apart, three feet wide at top, from two to three feet deep, and eighteen inches at the bottom. Then remove all trees and brush which may be growing thereon, then plough the land, and by using the cultivator, harrow, &c., reduce the land to a good tilth, being careful to destroy all coarse growing weeds, &c., before planting the cuttings. For this latitude we should advise planting in the month of April; we have planted at the rate of 11,000 per acre, two foot apart, which will be found ample room for cleaning, cutting, &c. We have used cuttings about eighteen inches in length inserted two-thirds in the ground, which have given every satisfaction. It is recommended by some cultivators to allow the growth of a year before cutting. Our practice has been to cut down to within two eyes of the main cutting every shoot of the first season's growth, thereby insuring a much stronger growth the second season. The after management of the plantation consist in keeping it entirely free from weeds during the early spring months; two thorough hoeings in spring, and one (if the land is sufficiently dry) in the fall, will be quite sufficient for this purpose. Landon, in the "*Arbutum Britannicum*" describes upwards of one hundred and eighty varieties of willow. The

late Duke of Bedford, one of the best farmers and Arboviculturists of his day, gave great attention to the cultivation of the willow; and in the extensive Arberetum at Wilbourn Abbey, in Bedfordshire, England, there are grown upwards of two hundred species and varieties, one of which, *Salix, Alba* had its origin at that place. But of the many varieties cultivated the "*salix viminalis*" is found the most valuable for the manufacture of baskets, chairs, &c., and such is the experience of the cultivators of the willow in this country. There are hundreds of thousands of acres of land which are admirably adapted to the cultivation of the "Basket Willow," and which I am fully convinced, if properly planted and managed, would yield an immense profit.

I will most cheerfully give any information in my power to any inquiries made upon the subject, by letter or otherwise.

Md. Agr. College.

DANIEL BARKER.

For the "American Farmer"

Speculations on Potato Planting, &c.

Occasional allusions are made in agricultural journals to the subject of planting potatoes in the fall.

I have no practical experience on the subject, and write altogether speculatively. Were I to experiment, after thoroughly preparing the land, I would run out deep, but furrows, north and south. Plant the potatoes about the last of August, which will afford time and heat sufficient to start the shoots and partially decay the tubers.

After planting, spread over the tubers four inches of rough but well-decomposed manure, and on the manure eight inches of unbroken rye straw, (tangled straw will do as well but it is more difficult to cover,) and finish covering by running an angular harrow turned up side down, "broad end on," which will draw to the centre of the furrows a light covering of earth. Early in November, or before the ground freezes, throw up, on either side of the potatoes, (by a heavy wide-breasted plow,) a ridge; then with a one-horse plow lap those furrows, thus covering the potatoes, by the three applications, about twenty inches, and on either side fifteen. The frost may penetrate through the earth but will be arrested by the straw. The ridges should be convex or roof-shaped.

In the spring (early in March) uncover down to the straw. When the vines are fairly up, sub-soil on either side, running the share next the potatoes which will allow a free circulation of

air and heat afterwards, cultivate as science and practice dictate.

In the autumn of '65 I left a row of potatoes (planted in April) ungathered: early in November I threw off the earth nearly down to the potatoes with a double mould board plow, and covered with straw, and earthed up as previously described. As soon as the frost was out of the ground on the following spring, I dug up a daily supply which lasted nearly till my extra early crop was sufficiently ripe for use. Nearly every potato was sound and as fresh as the succeeding early crop. Granting this experiment to be a fact, it follows that we can have at command this almost indispensable vegetable every month in the year.

As regards spring-forcing, see horticultural books and the monthlies on the subject.

Without seriously deviating from the subject I will add, that covering a summer crop of potatoes with straw, or mulching, will add greatly to the product. The mulch retains moisture, prevents excessive heat, and holds the rich gases arising from the atmospheric air. In our Southern States, mulching, as regards the potato crop, is indispensable to success.

Again, to keep potatoes fresh and sound for spring and summer use, select from the potato pits, when uncovered in the spring, those that are sound and unsprouted; for, for example, conical pits 6 inches deep, and 9 feet in circumference: in these, throw the potatoes carefully; on each layer of potatoes sift a heavy coat of dry sand or light loam,—cover with six inches of straw, twelve inches of earth, and, when settled, sod the surface, and form drains twelve inches deep around the pits, with an opening for the water to pass off. The same object may be accomplished by packing the potatoes in dry sand, and stowing them in a dry, cool cellar.

By excluding air, heat, frost and dampness, I believe potatoes may be kept in their fresh, original state, either during the summer or winter months, or for an indefinite time. My theory is, if we exclude the elements from the potatoes, dormancy results.

For convenience of transportation during spring and summer, pack in tight barrels with cut straw, saw dust, bran, &c.

Were I a northern or Canadian farmer I would not hesitate (if necessity required it) to cover potatoes under a snow drift. Let one of your sharp Yankee boys tie up in a coarse bag a half peck of sound dry potatoes (globular form), then, when the snow is in a fit state, let him roll it over the snow (as boys are wont to do) till it becomes too large for his strength, then let him

place the ball under a northern aspect, on the approach of spring cover the ball with straw, and over it a triangular chicken-coop, the closed side facing the South, or cover with pine boughs or brush to keep the straw in place, and to exclude the elements. I will wager high that the said boy will have the pride to present his mamma with half peck sound potatoes for her 4th of July dianer. If boys south of the State of Maine wish to try the experiment, I advise them to "break cargo" on next Easter Sunday.

My object is to induce my brother farmers to think more, experiment, and with practice unite science. It will be noticed that all I have said is speculative. S.

Baltimore County.

For the "American Farmer."

Uses of Fruits and Vegetables.

Of the culinary vegetables which we cultivate in our gardens, chemists tell us, that every genus possesses a virtue for the prevention and cure of many of the diseases incidental to human nature, suited especially for the season when it is in use; and the same is the case with fruits when they are ripe. So that a well stocked garden is a laboratory, filled with a great variety of medicines suited to all our needs. We think but little of the value of wholesome vegetables, while we have plenty of them; but when we can't get them, the cravings of nature will soon remind us that they are needed. What ardent longings have people for fresh vegetables while upon a long sea voyage! Raw turnip and raw carrot have been as sweet to our palate on ship-board as the finest fruits have been upon land. Without the prudent use of vegetables, along with grain, food, fish and flesh meats, we would soon be covered with disease. Vegetables correct the humors, and vitiating properties of fish and flesh meats; and they cool and moisten the heat and dryness of grain food; yet all of these are needed for our sustenance and good health; it is the combination of the various ingredients compounded in the stomach, that gives a lively appetite, a strong digestion and vigor and agility to our faculties. People who live much in-doors, and have not much exercise, should use plenty of vegetables to prevent costiveness, and to keep the pores of the skin open to the free flow of perspiration; but those who labor hard out of doors, must use more grain and fish and flesh meats, to give them hardness and strength; their exercises will naturally keep their pores open for perspiration. We should only eat such vegetables as suit our palates; the *palate* is the judge of what is suit-

able for the stomach, and refuses entrance to the unsuitable. It is the faithful watchman to guard the gateway to the stomach; and whatever is distasteful to it, should be rejected. The old "Adage" that "one man's food is another man's poison," holds as true with vegetables, and fruits too, as any other kind of food. Strawberries, cucumbers, melons, squashes, pumpkins, tomatoes, egg-plants, &c., are all included in this class.

All kinds of our cultivated fruit, contain an essential virtue when ripe, for the preservation of our health and prolongation of our lives. They are all nourishing, and most wholesome when fully matured; but, even then, they should be used with prudence, as the immoderate use of anything is injurious; besides, the greater number of them being very wholesome and palatable in their natural or raw states. There are a great many ways of preparing and keeping them to please our palates. There are jellies, jams, syrups, stews, &c., made by our virtuous wives; and men make of them—wine, cider, perry, &c., which when pure, are all both pleasant and wholesome. Then, there are the abusive uses of them, by adulteration and over fermentation. They are made into brandies, whiskies and vinegars—*men-killers*—but by careful keeping, we can have both fruits and vegetables to use in their natural states all the year round. Those that come on in autumn are easily kept sound all the winter through, until others grow in the spring. How beautifully the various species of fruits and vegetables follow each other in regular progression to give us a constant supply! How wonderful the foresight, and awful the conception, that planned everything so complete.

Philadelphia.

WALTER ELDER.

Our correspondent will find that we have used the privilege he gives us to prune his article somewhat. He can furnish us, we know, good practical articles on cultivating fruits and vegetables, but there is a little disposition, we find, among the most practical to moralise and philosophise. As our readers claim of us a very practical journal, we are obliged to limit ourselves somewhat rigidly in other respects. As to "brandy, whiskey and vinegar," we may not contend, perhaps, with an *Elder* as to the first two, but is not the other a good and wholesome condiment? How about cucumbers without vinegar?—[Ed.]

Twenty years ago there were no vineyards in the Department of the Indre, in France; at the present time the extent under vineyards is about 60,000 acres.

For the American Farmer.

Tariff of Farm Wages.

Messrs. Worthington & Lewis.

GENTLEMEN: I enclose a blank proposition for a tariff of prices for 1847, also resolutions on the same subject taken from a Somerset county paper upwards of a year since.

Your old and honored journal being the principal mouth-piece in this State, devoted to the interest of our farmers, prompts me to leave this important matter in your hands—hoping for prompt and early action. The subject has been alluded to frequently by farmers in this district—all unite in saying, there must be united action before individuals should act. Men now are comparatively numerous, and provisions reduced in price. Last year, wages were nearly double that of days of yore. I wish that employees and employers shall be equally protected, and act together for general success.

January 28, 1867.

FLOWMAN.

PROPOSITION.

That Baltimore and the adjoining counties adopt the following tariff of prices for the year 1867; due consideration being had in reference to short days, price of provisions, and probable price of products:

I suggest that, managers, overseers, and head gardeners be paid \$... per month. Best farm hands \$... per month; second rate hands \$... per month. Female laborers on farm \$... per month. Cutting hard wood \$... per cord; soft, ditto, \$... per cord. Grubbing \$... per 50 feet square.

Mauling oak rails.....	\$... per hundred.
“ chestnut posts.....	\$... per “
“ oak posts.....	\$... per “
“ chestnut rails.....	\$... per “

Making new post rail fence, including digging, boring, morticing and pointing rails \$... per pannel; cleaning out old ditch 3 feet wide, 1 foot at the foot and half spit deep, \$... per 50 yards. Other widths of ditch in proportion.

Without a guarantee, I doubt the propriety of hiring men by the year.

The following are the rates alluded to as adopted at a meeting in Somerset county:

For cutting oak wood 75 cents per cord, pine 60 cents per cord, for mauling oak rails \$1 per hundred, pine rails 60 cents per hundred, for day labor on farm with board 62½ cents, without board 87½ cents. For hands to work regularly, per month with board \$10, per year \$120. For female labor by the year \$36, for cleaning old ditch 3 feet wide, one spit deep, \$1 per hundred yards, 4 feet wide, one spit deep, \$1.25 per hun-

dred yards; all other lengths and depths in proportion. For grubbing \$1 per square.

Resolved, That we recommend to the farmers of Somerset county to decline to hire day labor in any department of their business, when hands can be more advantageously hired by the month or year, believing that an ample supply of reliable labor can be had in time for the spring crop at reasonable rates, and such as the farmer can well afford to pay.

For the “American Farmer.”

Inquiries.

CMUDERLAND COUNTY, N. C.

January 14, 1867.

MESSRS. EDITORS: Will you take the trouble to give some instruction to one who has just begun to devote himself to agricultural pursuits, and whose knowledge of agriculture, either practical or theoretical, is very limited.

The land on which I purpose farming is river bottom, originally of only medium fertility, and exhausted almost to the point of absolute unproductiveness by careless and improper cultivation. Much of the soil is stiff clay, and entirely too wet for grain crops without an amount of drainage, which, I fear, would cost more than the land would be worth. Now, what I want to know is, can such land be profitably converted into permanent grass land? and the best mode of doing so. What is the best plan of eradicating weeds and the native grasses which are neither fit for grazing nor mowing? What kind of grass is best suited to such land? Will it pay to use gypsum or any others of the fertilizers advertized for sale, for the purpose of increasing the yield of grass on such land, until a stock of cattle sufficient to make the quantity of manure required can be subsisted on the farm?

Is it profitable to keep cows for making butter when it will sell for no more than thirty cents per pound? What breed of cattle is the best for both dairy and fattening purposes?

You will oblige me, Messrs. Editors, by replying to the above inquiries, and giving information on any other point connected with grass-growing, through your paper, to which I am

A SUBSCRIBER.

Will some of our correspondents familiar with the character of land here spoken of give us their views in response to the above.—[Ed.]

Every child that eats fruit should be taught the importance of saving and sowing seeds and rearing them up to fruit bearing.

For the "American Farmer"

Concentration of Forces.

[The following is the most material portion of a communication, received at a late date, from an experienced farmer and large landholder in Albemarle county. We are not willing to omit anything which will help our Southern friends to the solution of the difficult problems involved in the matters of land and labor.—Ed.]

"My own impression now is, since we can't rely upon the present system of labor, we had better curtail the area put in cultivation, and lay out the little means now left us in concentrated manures and labor saving implements, and apply the one and use the other ourselves, as far as we can, until our present wandering laborers shall have grown tired of their idleness, and come to their senses. Out of a field to go in corn this year, I have selected some twenty-five acres for my own cultivation, the balance rented out for a third and a fourth to my white neighbors, to cultivate with their own hands. This is a good field, one-half being low ground; it would be considered fair corn land unaided by manures, yet I have thought of so applying bought manures upon the whole of my part, as reasonably to expect a first class crop of corn. Then in its last cultivation, seed it with turnips, rutabaga, peas and buckwheat, to be fed off by stock purchased next summer or fall. Then flush up all of my own and my tenant's corn land, and seed to oats; then the oat lands to be flushed up, manured, with guano, and put in wheat and the grasses; my wheat, oats and grass, to be cut by horse power, which I have. What grass I cannot cut nor graze, will be left to fall upon and fatten my lands. In this way, I think I can do with much less labor and realize better profits, until labor shall become more reliable. Without a better system of labor than the one now among us, I deem it utterly impossible to keep up our outside enclosures and the dividing fences. Owing to our miserable system of law making, and law enforcing powers, we are compelled to keep up, as best we can, our outer enclosures, to keep out a few worthless, wandering stock, and I have been thinking perhaps it might be better for us to see after our outside enclosures, and keep our own stock in an enclosed lot, or field, or wood lot, (of which I have a very large one, of some three hundred and fifty acres, now well enclosed,) having a lane to our barn or stable lots, where we might so aid the deficiencies of our lots, by soiling, as to keep them in good condition cheaper, and better than by hiring to keep up all of our inside fences; and then watch our stock at night

to save them from the sad depredations, now often made upon them, by our retired laborers, who sleep during the day, to enable them to go out the more successfully, while all honest laborers are taking their necessary rest. Please reflect upon these, my humble suggestions, made for the benefit of our sadly oppressed people of the South, and now and then, give to us, through your valuable paper, a page or two of your good suggestions, of which we all are so sadly in need, and for which many of us will sincerely thank you."

G. C. G.

Albemarle county, Va.

For the "American Farmer."

Small Farms.

REESE'S CORNER, KENT CO., MD.,
February 11, 1867.

Editors of American Farmer:

At this time, when we are about commencing our farm operations for the present year, and find that we are a good deal troubled for want of sufficient manual labor, it is advocated by many persons to reduce the size of our farms. In this opinion I am at variance with them, and suggest that it will only increase the scarcity of labor, as it will certainly require more force, both of manual and animal, to conduct the operation of three farms, each containing two hundred acres, than it will to conduct one farm, containing six hundred acres; and I find it less trouble to secure hands sufficient to conduct the larger farm than it is the smaller ones, for the reason that the negroes prefer to have a number of hands together, than to work in smaller numbers.

The expense of carrying on the operation of the larger farm is also considerably less in proportion to the number of acres in cultivation, and the number of bushels of grain or nett sales pro rata or per hand. The owner or overseer can manage the larger force at the same time that it would require him to oversee the operation of the smaller force. To work the farm of two hundred acres would require at least six horses, as it is necessary to have a spare one, at least, for the use of the family, whilst twelve will conduct all the operations of the larger one, whilst it would require nearly the same amount of farm implements for the smaller as it would the larger farm, unless they would depend on hiring reaper, drill, threshing machine, &c., as needed, which is rather an uncertain way of securing a crop.

What we need in our section of the country, I

am satisfied, is a change in our system of farming operations; that is, to cultivate more grass, both for pasture and provender, cultivating less land in grain, making more manure in the farm yard, and buying less imported; raising more stock, and taking better care of it. Also, in cultivating a portion of the land, lay one-eighth in fruit, and pay close and strict attention to it, so as to compete with our Northern fruit growers, even in their own markets. More energy and less complaining.

"Never dim joy's brightest rays,
By gloomy fears of coming sorrows;
But always cheat the cloudy days,
With hopeful thoughts of happy morrows."

A J. R.

For the "American Farmer."

JOYNER'S DEPOT, N. C., January 18, 1867.

Editors American Farmer:

Will you please inform me, through the *Farmers*, how to prepare and manure, with bought manures, (as home made manures are not to be had) one acre of poor land for clover. The land will produce only about ten bushels of corn in its present condition, and the clay is about fifteen to eighteen inches from top of ground. I wish to sow an acre in clover for a few hogs, and it (the land) will not produce the clover in its present condition, and I wish you to inform me what kinds of bought manure is best, and how much of each kind should be applied to make the land produce good clover. What is the difference between shell and stone lime for agriculture, as a manure? Which is worth the most, a bushel of ashes or a bushel of shell lime? How many bushels of lime are necessary to be applied to an acre of land?

A. C. S.

Answer—Land that will produce but ten bushels of corn to the acre, should have two hundred to two hundred and fifty pounds of some good superphosphate—whatever you have found to do well in your neighborhood—in order to get a good growth of clover. A bushel to the acre of ground plaster, (sulphate of lime,) should be sown upon the clover when it gets the third leaf. The land must have been well cultivated the previous season in corn, or other hoed crop. It is difficult to get a set of clover on poor, and very sandy land, without a top-dressing of manure, having straw or other litter in it.

Ordinarily, shell lime is quite equal in value to stone lime, weight for weight; fifty bushels of slaked lime per acre is a medium top-dressing. It will help very much to make light lands produce clover and grass. Good oak ashes, are

more valuable than lime, bushel for bushel; they contain both lime and potash.

Hogs are now so liable to disease, that, we think, the most profitable, for ordinary farm use, is some healthy, thrifty country hog, crossed with a close-made, Chester county hog, or almost any improved breed of good size. The "Little Guinea" is too small for profit, though an economical feeder, and the "Big Guinea" we are not acquainted with.—ED. FARMER.

Maryland State Sorgho Convention.

The third annual Convention of the Maryland State Sorgho Association assembled at Gilmore's Hotel on Tuesday, 12th February, and was called to order by the President, A. R. Durbin, of Carroll county, who made some remarks. He said there was no doubt that molasses and sugar could be made from the sorgho, but whether it will pay Maryland farmers to raise the plant for their own use is a problem yet to be solved. During the past year the product showed a marked deterioration, more than half the cane having been worthless, though raised from pure seed. He thought the annual meeting of the cane growers will be productive of good, and the members would do all in their power to present to the farmers the importance of producing their own syrups. The report of the State Board was presented, and its questions discussed. Fifty specimens of syrup, one of granulated sugar, and several of mush sugar, were exhibited, and a committee appointed for the purpose made a lengthy report on their qualities.

The following resolutions were discussed and adopted:

Resolved, That regular sorgho is the most productive and valuable variety of cane for general purposes, but that the Liberian, possessing some peculiar qualities, is worthy of further cultivation. Offered by Mr. H. Ball, of Harford county.

Resolved, That early and deep plowing, planting more seed than is intended to stand, the plant then suckering less, with thorough working with cultivators, is the best method of cultivation. Offered by Mr. Kinsey.

Resolved, That any speedy market fertilizer is more desirable to start cane than stable manure, but that a well-improved soil is to be relied on for its successful growth. Offered by Mr. Bruster.

Resolved, That a light sandy loam soil, with a trace of lime in its composition, is preferable

to a clay loam or sub-soil. Offered by Mr. Cloud.

Resolved, That the planting of soaked or dry seed is successful in proportion to the kind of weather that succeeds said planting, and that a mixture of soaked and dry seed is advisable, so as to adapt its growth to any weather that may follow the planting. Offered by Mr. C. C. Kinsey.

Resolved, That a committee of three be appointed to experiment with canes, as follows: Take pure seed, and plant free from contact with any species of the millet family; then plant the same kind of seed with broom corn and other species; after the canes are matured, test results as to quantity, quality, and density, and report result to next annual meeting. Offered by Mr. Bruster.

Resolved, That shallow and rapid evaporation is attended with the best results; also, that fire is more convenient and durable than steam as an evaporating agent.

Resolved, That sorghum syrups should be cooled down to a temperature as low at least as 175 degrees as soon as possible after being removed from the pan.

Resolved, That Maryland farmers can produce and manufacture sorghum syrup at a cost per gallon not exceeding one-half the cost of corn per bushel.

Resolved, That for ordinary domestic operations in sorghum, vertical mills, being less expensive, and receiving the power more direct, are the most economical and appropriate. In large operations, requiring machinery of large capacity, horizontal mills should be used.

A paper was adopted declaring, for the benefit of all operators, that all taxes upon sorghum syrup and sugar have been abolished; and that manufacturers are only required to procure a license when the whole product of the season's operations exceed \$1000.

Mr. Bruster, of Baltimore county, offered the following resolution, which was also adopted:

Resolved, That the State Board be authorized to confer with the officers of the Maryland State Agricultural Society with a view of introducing and benefitting the sorgho interest in its various branches by encouraging with premiums and otherwise.

The Convention, after some conversational discussion, adjourned *sine die*.

The Secretary of the Iowa Board of Agriculture claims that full one-third of the receipts of wheat at Chicago are from Iowa.

Arrival of First Steam Plow at N. Orleans.

It will interest our planting friends, factors, and others interested in the agricultural development of the South, to know that one of the steam plows of Messrs. Fowler & Co., Leeds, England, has arrived by the steamship Alhambra, from Liverpool, consigned to Messrs. Longstreet, Owen & Co.

We strongly recommend the attention of agriculturists to this fact, believing, as we do, its introduction will at no far distant day prove it an implement of the greatest importance in the cultivation of our cotton and sugar lands, and in the highest degree save a vast amount of animal and human labor in the production of our products, sugar and cotton.

Messrs. Fowler & Co. have introduced their plows throughout England and in Egypt, and we are informed hundreds of them are now being worked by the Arabs and Bedouins in the valley of the Nile, preparing the soil for the crop of this year. Mr. Eyth, the engineer, accompanying the engine, informs us that as soon as all the parts of the machine are landed from the vessel, an exhibition of its working will be given, in the vicinity of the city, to afford an opportunity for our planting friends and others to see it in operation, and to test its power and suitability for the great agricultural district of the Mississippi valley.—*New Orleans Weekly Times*.

KICKING COWS.—J. J. Watson writes the New England Farmer in this wise: I had a kicking heifer—a perfect kangaroo. I tried moral suasion—no use; then retaliation—when she kicked, I kicked—she grew worse and I no better. I then “tied her up,” but that didn’t affect her hind legs—she spilled her milk—she jammed the pail—she rapped my shins. I was then advised to take up one fore foot and slip a short strap over her knee, so as to compel her to stand on three legs, being “tied up,” of course. This done, cut your nails, and milk at your leisure. She can’t hurt you, and will “come to her milk,” and give up kicking.

A Scotch paper says a farmer in that county found two lambs in a culvert where they had been, without any food, for twenty-one days. A third lamb had died, but these two were still alive, although very weak.

The plan of planting a few acres with forest trees, to be used as fuel, and allowed to grow up again, thus furnishing a perpetual supply, is strongly recommended to prairie farmers by some recent writers.

Sunday Reading.

Imagination cannot form to itself a more exquisite and affecting piece of scenery than that exhibited by Solomon in the book of Proverbs. In his seventh chapter, he introduces the world, by its meretricious blandishments, alluring the unwary to the chamber of destruction. In the succeeding chapter, by way of perfect contrast, appears in the beauty and majesty of holiness the Son of the Father, the true and eternal Wisdom of God, with all the tender love and affectionate concern of a parent, inviting men to substantial joys and enduring pleasures of immortality, in the house of Salvation.

The *high mountain* and the *pinnacl*e of the *Temple* seem to point to Satan's chief temptation, the sin of *pride*, whereby he himself fell, and wherewith he seeks to make havoc of our souls, in things sacred, even in the very temple of God. How difficult it is, yea, impossible to mortal man, to stand unmoved on the high places of the earth, so as to say, "I refrain my soul and keep it low." "Get thee behind me, Satan."

How is it possible for God to make an intelligent creature to receive its happiness from anything, but Himself, since this would not only be giving His glory to another, but in some sort an annihilation of Himself? For, whatever constitutes, or confers our happiness, will, in the reason of the thing, be our God, and we cannot be persuaded to place our desires, to pay our homage anywhere else.

Consider four things; Christ's baptism, His departure into the wilderness, His fasting, and lastly, His contest and conquest over the Tempter and temptation. In the first, we call to mind our regeneration in the fountain of grace; in the second, our departure from the vanities of the world; in the third, the mortification of the flesh; in the fourth, how to resist the enemy.

He, that brought ruin into the state of man, began the same by eating; but He, that brought recovery into the ruined state of Adam, began the same by fasting. He fasted *days and nights*; whence we may gather that we must be armed against the tempter, as well in the days of prosperity, as nights of adversity.

All the sayings, syllables, accents, and dots in the Divine Scriptures are full of meaning.

Had Hercules sat at home by the fireside, and passed his life in effeminate ease and indulgence, he had never been Hercules. They were the lion, the hydra, the boar, and all those monsters he so laboriously defeated, which exercised his gallantry. What honor had he acquired, if his virtue had not been thus dangerously employed? What benefit had mankind reaped from so great a soul, if he had declined the occasions of exerting it?

We are, by nature, half angel, half brute. We must rise towards the one, or sink towards the other; and at length, associate to all eternity either with angels or devils. To feed, to strengthen, to exercise, the spiritual part of us, is to rise. To feed, to strengthen, to exercise the brutal part, is to sink and be lost forever. "We lost the innocence and dignity of nature by eating," says Athanasius, "and must restore ourselves by abstinence."

Before you begin your psalm of praise and rejoicing in God, make this use of your imagination: Be still, and imagine, that you saw the *heavens open*, and the glorious choirs of the Cherubim and Seraphim about the throne of God. Think upon this, till your imagination has carried you above the clouds, till it has placed you amongst those heavenly beings, and made you long to bear part in their eternal music.

I suppose, that in the baptism of Christ, the mystery of all our baptisms was visibly acted; and that God says to every one truly baptized, as He said to Him, (in a proportionable sense,) "Thou art my Son, in whom I am well pleased."

Jesus is cleansed; and dost thou despise purification? By John, and dost thou say ought against thy teacher? At thirty years old; but dost thou in teaching precede thy elders?

Prayer is the way to have *heaven* upon earth, and to have some foretastes of the grapes of Canaan, whilst we are in the wilderness of the world, before we get a full meal of them.

It is a great deal easier to commit the second sin than it was to commit the first; and a great deal harder to repent of a second than it was to repent of the first.

Prayer tranquillizes and cleanses the soul, so as to render it more fit for the reception of God's gifts.

THE MARYLAND AGRICULTURAL COLLEGE.—The duties of this Institution will be resumed on Monday, 25th day of March. (See Advertisement.)

Attention is called to the large public sale at the farm of J. Howard McHenry, Esq., near Pikesville, Md., on the 3d and 4th April. See advertisement.

Baltimore Markets, Feb. 23, 1867.

COFFEE.—Rio, 17½a19 cts. gold, according to quality. Laguayra 17½a18½, and Java 25a25½ cts. gold. COTTON.—We quote prices as follows, viz:

Grades.	Upland.	Gulf.
Ordinary.....	30	—
Good do.....	30	—
Low Middling.....	31	—
Middling.....	32½	—

FERTILIZERS.—Peruvian Guano, \$52; Reese & Co's Soluble Pacific Guano, \$65; Flour of Bone, \$60; G. Ober's (Kettlewells) AA Manipulated, \$70; A. do., \$60; Ammoniated Alkaline Phosphate, \$55; Alkaline Phosphate, \$45; Baltimore City Company's Fertilizer, \$40; do., Flour of Bone, \$60; do., Ground Bone, \$45; do., Poudrette, \$20; Baugh's Raw-bone Phosphate, \$56; Maryland Powder of Bone, \$50; Andrew Coe's Super-Phosphate of Lime, \$60; —all per ton of 2,000 lbs.; Pure Ground Plaster, \$13.50a \$14.00 per ton, or \$2.50 per bbl. Shell Lime, slacked, 6c., unslacked, 10c. per bushel, at kilns.

FISH.—Mackerel.—No. 1, \$19a21; No. 2, \$16 50a17 50; large, No. 3, \$14a15. Herrings—Labrador, \$6a7; Potomac and Susqueh'na, —; Codfish, 5½a6½ cts. per lb.

FLOUR.—Howard Street Super and Cut Extra, \$10.50a \$11.00; Family, \$14.10a16.00; City Mills Super, \$10.25a 11.50; Baltimore Family, \$17.50.

Rye Flour and Corn Meal.—Rye Flour, new, \$6.75a 7.25; Corn Meal, \$4.62a4.75.

GRAIN.—Wheat.—Good to prime Red, \$3.00a3.10; White, \$3.30.

Rye.—\$1.25 per bushel.

Oats.—Heavy to light—ranging as to character from 55 a59c. per bushel—bulk.

Corn.—White, 93a96 cts.; Yellow, 93a96 cts. per bushel.

HAY AND STRAW.—Timothy \$25a27, and Rye Straw \$27 per ton.

BEANS.—\$3.00a3.25 as to quality.

POTATOES.—\$1.00 per bushel.

PROVISIONS.—Bacon.—Shoulders, 11a12 cts.; Sides, 12a13; Hams, plain bagged, 16 cts.; sugar cured, 17 cts. per lb.

SALT.—Liverpool Ground Alum, \$2.20a2.25; Fine, \$3.25; Turk's Island, 60a63c. per bushel.

SEEDS.—Clover, held at \$8.50a9.50; Timothy, \$3.75a 4.00; Flaxseed, \$2.75a\$2.80.

TOBACCO.—We give the range of prices as follows:

Maryland.

Frosted to common.....	\$2.50a 3.00
Sound common.....	3.50a 4.00
Middling.....	6.00a 8.00
Good to fine brown.....	10.00a15.00
Fancy.....	17.00a25.00
Upper country.....	3.00a30.00
Ground leaves, new.....	3.00a5.00

Ohio.

Inferior to good common.....	4.00a 6.00
Brown and spangled.....	7.00a12.00
Good and fine red and spangled.....	13.00a17.00
Fine yellow and fancy.....	20.00a30.00

WHISKEY.—\$2.25a2.30 per gallon, in barrels.

WOOL.—We quote: Unwashed, 25a27 cts. per lb.; Tub-washed, 45a57 cts.; Fleece, common, 40a45 cts.; Pulled, No. 1, 28a33 cts.; Merino, 37a40 cts.

CATTLE MARKET.—Common, \$5.50a\$6.25; Good, \$7a \$7.25. Prime Beeves, \$7.50a8.00 per 100 lbs.

Sheep—7¼a8¼ cents per lb. gross.

Hogs—\$10.50a11.25 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by ELLICOTT & HEWKS, Produce and Commission Merchants, 67 Exchange Place.

BALTIMORE, Feb. 23, 1867.

BUTTER.—Ohio, in brls. and kegs, 20 to 25 cts.; Roll, 30 to 33; Virginia and Pennsylvania in kegs and tubs, 20 to 25; Glades, 25 to 43; Goshen, 45 to 50.

BEESWAX—43 cts.

CHEESE.—Eastern, 20; Western, 18.

DRIED FRUIT.—Apples, 10; Peaches, 17.

EGGS.—In barrels, 40 cents per dozen.

FEATHERS—80 cents for good Southern.

LARD.—Brls. 13, kegs 13½. Jars and other country packages 14 cents.

TALLOW.—11½ cents.

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